

**PLANNING ACT 2008**

**SIZEWELL C PROPOSED NUCLEAR DEVELOPMENT**

**MMO RESPONSE TO STAGE 1 PRE-APPLICATION CONSULTATION**

**MMO REF: DC9364**

**Table of Contents**

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<b>1. The proposal .....</b>	<b>2</b>
<b>2. The role of the MMO .....</b>	<b>2</b>
<b>3. This document .....</b>	<b>3</b>
<b>4. Policy and planning.....</b>	<b>4</b>
<b>5. Consultation questions.....</b>	<b>4</b>
<b>6. Environmental Report questions .....</b>	<b>7</b>
Whether the Environmental Report identifies the main environmental resources and receptors that have the potential to be affected by the Sizewell C Project.....	8
Whether there are any potential environmental effects that have not been identified.....	9
Whether the design choices to date positively respond to the identified environmental sensitivities. ....	9
<b>7. Comments on the Environmental Report .....</b>	<b>10</b>
Terrestrial ecology and ornithology .....	10
Recreation.....	10
Noise and vibration .....	11
Surface water and flood risk.....	11
Coastal geomorphology and hydrodynamics .....	11
Marine water quality and sediments.....	12
Marine ecology.....	13
Commercial fisheries .....	13
Navigation.....	14
Radiological effects.....	15
Permanent developments .....	16
Temporary developments .....	16

## 1. The proposal

- 1.1. EDF Energy intends to submit an application to the Planning Inspectorate (“PINS”) for a Development Consent Order (“DCO”, the “DCO Application”) for a new nuclear power station, Sizewell C (the “Project”). The Project is a Nationally Significant Infrastructure Project (“NSIP”) within the meaning of the Planning Act 2008 (the “2008 Act”).
- 1.2. The Project follows the UK Government’s National Policy Statement for Nuclear Power Generation (EN-6), which identified a need for new nuclear power stations in order to support the UK’s transition to a low carbon economy<sup>1</sup>.
- 1.3. The Project would comprise a range of terrestrial and marine development, some of which would remain permanently and some of which would be temporary development intended to support the construction phase. The permanent works would include cooling water infrastructure and sea protection. The temporary works would include working areas on the foreshore and a jetty, although it is envisaged that part of the jetty may remain permanently. These works would all have the potential to impact upon the marine area.
- 1.4. The proposed site is located directly to the north of an existing nuclear power station, Sizewell B, on the Suffolk coast.

## 2. The role of the MMO

- 2.1. The MMO was established by the Marine and Coastal Access Act 2009 (the “2009 Act”) to make a contribution to the achievement of sustainable development in the marine area and to promote clean, healthy, safe, productive and biologically diverse oceans and seas. The UK Government’s Marine Policy Statement forms the framework for the MMO’s management of the marine area.
- 2.2. The responsibilities of the MMO include licensing of construction works, deposits and removals in the marine area<sup>2</sup>. Marine licences are required for all deposits or removals of articles or substances below the level of mean high water springs, unless relevant exemptions apply.
- 2.3. For NSIPs, the 2008 Act enables a DCO for projects which affect the marine environment to include provisions deeming the requisite marine licences to have been granted. Alternatively, applicants may seek marine licences directly from the MMO. Where applicants choose to seek marine licences deemed by a DCO, it is envisaged that applicants will seek to agree the draft deemed marine licences with the MMO prior to submitting their DCO application to PINS.

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<sup>1</sup> Department of Energy and Climate Change (2011) National Policy Statement for Nuclear Power Generation (EN-6).

<sup>2</sup> Marine and Coastal Access Act 2009 (Part 4)

- 2.4. The MMO is responsible for post-consent validation of marine licences regardless of whether these are deemed by DCOs or are issued directly by the MMO. This includes discharging of conditions, undertaking variations and taking enforcement action when appropriate.
- 2.5. It should be noted that the MMO is an interested party for the examination of DCO applications in the marine area.

### 3. This document

- 3.1. This document is the MMO's response to the Stage 1 pre-application consultation material supplied to the MMO by letter of 20 November 2012. In preparing this response the MMO has reviewed the following documents (together, the "Consultation Documents"):
  - Consultation Document Summary, EDF Energy (November 2012)
  - Consultation Document, EDF Energy (November 2012)
  - Environmental Report, EDF Energy (November 2012)
  - Transport Strategy and Supporting Information, EDF Energy (November 2012)
- 3.2. This is written without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or anything else.
- 3.3. Although the Project would consist of terrestrial and marine development, the MMO's focus is on works which would be in the marine area or which could otherwise affect the marine area. At present, the MMO understands this would include:
  - the cooling water infrastructure (including cooling water tunnels extending out to sea and headworks)
  - sea protection (coastal flood defences)
  - a jetty
  - works areas on the foreshore for the installation of cooling water infrastructure and sea protection.
- 3.4. This document is split into the following sections:
  - a summary of the marine planning implications – **section 4**
  - response to the consultation questions – **section 5**
  - response to the Environmental Report questions – **section 6**
  - other comments on the Environmental Report – **section 7**

#### **4. Policy and planning**

- 4.1. The MMO is currently in the process of devising Marine Plans for English waters, with a view to ensuring a sustainable future for our coastal and offshore waters through managing and balancing the many activities, resources and assets in our marine environment.
- 4.2. In examining the DCO Application, PINS is required to have regard to the Marine Policy Statement and any relevant Marine Plan. Similarly, in determining any future marine licence applications, the MMO will make decisions in accordance with the Marine Policy Statement and any relevant Marine Plan.
- 4.3. The Project would be primarily located within the East Inshore Marine Plan area. At the time of writing, there is no Marine Plan yet in place for this area, however, planning for this area began in April 2011 and the formal 12 week public consultation on the draft Marine Plan is expected to begin in Spring 2013. Adoption of the Marine Plan is then expected to follow later in 2013.
- 4.4. The MMO would encourage EDF Energy to ensure due consideration is given to the relevant Marine Plans in the development of the Project.

#### **5. Consultation questions**

- 5.1. Following a review of the Consultation Documents the MMO have drafted the following responses to the consultation questions.

What are your overall views on EDF Energy's proposals to build a new power station at Sizewell C and associated development?

- 5.2. The MMO's focus at this time is on ensuring that a proper assessment of the likely impacts of the Project on the marine environment is undertaken before the DCO application is made.

What are your views on the proposed temporary developments at the Sizewell C development site?

- 5.3. Of the proposed temporary developments, the MMO is primarily interested in the jetty and the works areas on the foreshore for the installation of cooling water infrastructure and sea protection.
- 5.4. With regards to the jetty, although the MMO would in principle support the use of waterborne freight, the Consultation Documents do not provide sufficient detail for the MMO to offer a formal view on the merits of the jetty at this time.
- 5.5. The MMO expects to see information detailing the construction, operation and decommissioning phases of the jetty. This should include detailed construction methodologies, design drawings and works programme. It should also include information on the intended use of the jetty including the number,

frequency, size and cargo of vessels. The MMO also expects to see information regarding the anticipated lifespan of the jetty and details of removal and reinstatement plans.

- 5.6. It is understood from the Consultation Documents that some elements of the jetty would be permanently retained during operation of Sizewell C. The MMO would welcome further information about this. In particular, the MMO would wish to know which elements of the jetty would be retained, the size, design, location and intended use of the retained works, the anticipated lifespan of the retained works and details of removal and reinstatement plans.
- 5.7. The information on the jetty should be presented alongside a full assessment of impacts and should provide details of any proposed mitigation of impacts. Consideration should also be given to alternative approaches.
- 5.8. The MMO would be interested to learn at the earliest opportunity of any powers which are likely to be sought in order to operate the jetty and the mechanism by which it would be intended for such powers to be bestowed.
- 5.9. With regards to the works areas on the foreshore for the installation of cooling water infrastructure and sea protection, the Consultation Documents do not provide sufficient detail for the MMO to offer a formal view on the merits at this time.
- 5.10. The MMO notes that it is proposed to use a cut and fill operation to introduce culverts connecting the outfall structures to the power station (Environmental Report, section 4.14.19). Alongside the assessment of impacts arising from such works, the MMO expects to see a detailed justification for the use of cut and fill operation as a methodology and consideration of alternative methods.
- 5.11. As stated above, the MMO's focus is on works which would be in the marine area or which could otherwise affect the marine area. As such, the MMO currently has no comments to make on the construction working areas, accommodation campus, temporary structures, bridges, rail infrastructure or other terrestrial development which based on the information available to date appear unlikely to affect the marine area.

Our proposals include a new visitor's centre for Sizewell. There are three potentially suitable locations for the visitors centre: Lover's Lane, Sizewell Beach and Goose Hill.

- 5.12. The MMO notes that the Sizewell Beach option could potentially affect the marine area. If this option is taken forward the MMO should be consulted on the design and impact assessment.

What are your views on EDF Energy's overall accommodation strategy?

- 5.13. The MMO has no view to offer on the merits of the overall accommodation strategy at this time but notes that an increase in the number of people living

in the vicinity of the site could give rise to environmental impacts. Due consideration should be given to this in the development of the Project.

We have proposed three alternative options for the temporary accommodation campus: Development Site Campus, Sizewell Gap Campus and Leiston East Campus.

- 5.14. As stated above, the MMO's focus is on works which would be in the marine area or which could otherwise affect the marine area, as such the MMO has no comments to make on the alternative options for the temporary accommodation campus at this time.

What are your views on EDF Energy's overall transport strategy?

- 5.15. The MMO would in principle support the use of waterborne freight to and from the site over land-based transport. However, this is subject to the likely impacts of the jetty being found to be acceptable.
- 5.16. With regards to the wider land based transport strategy, the MMO currently has no comments to make.

We are proposing to build two temporary park and ride developments near the A12 – one for drivers approaching Sizewell from the north and the other for drivers approaching from the south. The three alternatives for the northern park and ride facility: Yoxford Road, Darsham and A12/A14 Junction.

- 5.17. The MMO currently has no comments to make on the proposal for two temporary park and ride developments.

There are three alternative options for the southern park and ride facility: Wickham Market, Woodbridge and Potash Corner.

- 5.18. The MMO currently has no comments to make regarding the proposed southern park and ride location.

What are your views on this approach to managing HGV movement, including whether you prefer locating the lorry park with a park and ride facility or separately?

- 5.19. The MMO currently has no comments on the management of HGV movement.

There are three proposed alternative locations for a standalone lorry park (rather than at the southern park and ride): Orwell Lorry Park (West), Orwell Lorry Park (East) and A12/A14 Seven Hills Junction.

- 5.20. The MMO currently has no comments to make on the alternative locations for the standalone lorry park.

The narrow bend in the village of Farnham is widely recognised to be a significant issue on the 'four villages' stretch of the A12. We have identified three potential options to address this issue: A bypass of Farnham, Widen the road at Farnham bend and HGV traffic controls at Farnham.

- 5.21. The MMO currently has no comments to make regarding the options to address the narrow bend in Farnham village.

Do you have any further comments about the potential impact of Sizewell C related traffic on the local road network?

- 5.22. The MMO currently has no comments to make about Sizewell C related traffic and its impact on the local road network.

There are two alternatives being considered which could increase the scope to use rail during the construction of Sizewell C: New rail terminal and temporary rail extension.

- 5.23. The MMO currently has no comments to make about the proposed alternatives.

If the existing rail line is extended to the main development site there are three alternative options for the route: Red route, green route, blue route.

- 5.24. The MMO currently has no comments to make on the proposed rail line extension routes.

Do you have any comments on our proposals, including our approach to education, training and local supply chain initiatives?

- 5.25. The MMO currently has no comments to make about EDF's approach to education, training and local supply chain initiatives.

Do you have any comments about the consultation process so far?

- 5.26. Having reviewed the consultation documents the MMO is satisfied that the information provided is clear and concise, providing a good background and outline of the proposed power station. Efforts have been made to create a foundation of information and, in the main, gaps appear to have been correctly identified and suitable additional investigations have been suggested.

## **6. Environmental Report questions**

- 6.1. The Environmental Report request specific feedback on the following three points.

Whether the Environmental Report identifies the main environmental resources and receptors that have the potential to be affected by the Sizewell C Project.

- 6.2. The Environmental Report makes a concerted effort to identify the baseline environmental conditions, as well as identifying gaps and further investigations. However, the report does not indicate how study areas were defined and therefore it may be necessary for additional investigations to be completed in order to establish cumulative effects or other resources and receptors which may be affected.
- 6.3. Similarly it has been noted that some data used to inform the Environmental Report may now be out of date. In order to ensure accuracy of impact assessment, the MMO advises that the data used is as current as possible.
- 6.4. The Environmental Report makes limited efforts to consider the future baselines for each of the identified parameters, with consideration for the situation that would exist were the Project not to take place. Considering the lifespan of the power station and subsequent fuel storage it is vital that the long term impacts are identified and mitigated against.
- 6.5. The MMO is supportive of EDF Energy's intention to consult with relevant stakeholders including the MMO, Natural England and the Environment Agency on the scope of future studies and the management of impacts. The MMO will endeavour to provide advice within its remit where possible.
- 6.6. It should also be noted that the MMO is responsible for the management of fishing quotas and the recording of data on fishing activities. As such, the MMO may hold data that could inform the Project.
- 6.7. A noise baseline has been established for the terrestrial environment but not for the marine environment. As the Project would include construction and operation of significant marine structures, the MMO would recommend that a baseline be established so that potential effects can be identified, assessed and mitigated against.
- 6.8. The Environmental Report does not make reference to the spawning and nursery grounds which exist around Sizewell and which support commercial fishing activity. It is important that a baseline is identified and that the proposed development does not adversely affect fish stocks. It should be noted that depletion of the cod and whiting populations may have impacts for the local fishermen. The MMO recommends that EDF Energy consult Ellis *et al.*, 2012<sup>3</sup> to inform the assessment relating to marine infrastructure, particularly the cooling water infrastructure.

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<sup>3</sup> Ellis JR, Milligan SP, Readdy L, Taylor N and Brown MJ. Spawning and nursery grounds of selected fish species in UK waters. (2012) Centre for Environment, Fisheries and Aquaculture Science



Whether there are any potential environmental effects that have not been identified.

- 6.9. The management of low frequency, high magnitude environmental risks which may arise from the construction of a third power station at Sizewell do not appear to have been considered. As examples, the impingement of jellyfish swarms or fouling of fishing gear on marine structures are realistic possibilities. The MMO advises that consideration is given to how such eventualities would be dealt with.
- 6.10. As mentioned above, the spawning and nursery grounds which exist around Sizewell do not appear to have been considered. It is vital that life cycles are taken into account to avoid reducing populations. The MMO recommends that population modelling is used in assessing the impacts of the cooling water infrastructure.
- 6.11. The cumulative impacts of the Project alongside the operation and decommissioning of the existing power stations and other works need to be fully considered.
- 6.12. It appears that indirect effects of the Project have not been fully explored. The Outer Thames Estuary Special Protection Area (“SPA”) supports the Red Throated Diver (*Gavia stellata*) and reduction in fish populations may have an indirect impact on this species by reducing its prey populations. The MMO recommends that a full assessment of the potential indirect impacts which may result from terrestrial and marine changes is undertaken.
- 6.13. There is a potential for organisms that pass through the cooling water infrastructure and fish return system to be affected. Although such systems are already in use elsewhere, the MMO would expect to see a full assessment of the likely impacts upon such organisms with a view to ensuring the viable survival of species.

Whether the design choices to date positively respond to the identified environmental sensitivities.

- 6.14. Significant design choices relating to the marine environment are yet to be established. Future decisions on the location and design of the jetty, including information on the scale of the structure which may be retained, should take into consideration environmental sensitivities and cumulative impacts.
- 6.15. The areas identified for the jetty and cooling water infrastructure do not appear to take into consideration the location of existing structures. Although the consultation documents explain that the works to determine the locations are well advanced and that the British Energy and Estuarine and Marine Studies project (“BEEMS”) aided in identifying the general area, there is no explanation of the environmental sensitivities that have been identified.

- 6.16. The design of flood defence and coastal protection works are yet to be confirmed. The consultation documents state that technical studies will be used to inform design. The MMO suggests that the data used is as current as possible and gives consideration to the impacts of climate change.
- 6.17. Consideration should be given to protected areas when assessing design choices. It appears that the Sizewell Marsh Site of Special Scientific Interest (“SSSI”) would be affected by the Project but the MMO expects due consideration will also be given to other protected sites, such as the Minsmere to Walberswick Heaths and Marshes SSSI and Outer Thames Estuary SPA which are directly adjacent to the Sizewell site.
- 6.18. The proposed design choices do not necessarily explain how factors such as vibration, noise, water quality, coastal processes and historic environment have been considered. The MMO expects to see a full justification of the design choices with consideration of alternatives and the environmental sensitivities.
- 6.19. With regards to the significant recreational and commercial use of the area surrounding Sizewell, the MMO also expects an indication of how these factors have been considered in relation to design.

## **7. Comments on the Environmental Report**

### Terrestrial ecology and ornithology

- 7.1. The assessments should consider any impact pathways from the terrestrial development to the marine environment. The cumulative impacts of changes to numerous habitats and feeding sources should be highlighted.
- 7.2. The Environmental Report states that the area around the Sizewell outfall is used by a variety of seabirds for foraging. The report suggests that additional studies are completed to establish the seabird assemblage and potential impacts resulting from changes to the marine environment. The MMO concurs with the suggestion of further studies.

### Recreation

- 7.3. The Environmental Report states that:

*“No formal facilities for waterborne recreation activities, such as fishing, swimming, sailing and watersports, have been identified within 2km.”*

Despite this, Figure 4.16.1 identifies recreational navigation activity surrounding the Sizewell C site. The MMO considers investigations to determine the frequency of yachting in this area should be undertaken.

- 7.4. Currently intake and outfall structures associated with Sizewell A and B exist within the inshore environment. The MMO advises that an assessment of the

impact of additional obstructions to the recreational yachting adjacent to Sizewell C should be undertaken. This is particularly important as the Royal Yachting Association have identified the region directly adjacent to the current and proposed Sizewell power stations as a racing area with high use.

- 7.5. The MMO recognises the recreational value of the beach adjacent to Sizewell C and supports the proposals to conduct surveys to determine the resources likely to be affected.
- 7.6. Although reference is made to public rights of way resulting from the Countryside and Rights of Way Act, coastal access for the public as stipulated in the 2009 Act<sup>4</sup> is not mentioned. The MMO expects to see consideration of the public rights of access to coastal land.

#### Noise and vibration

- 7.7. The Environmental Report states that data has not been gathered relating to vibration. An assessment of the vibration impacts, particularly during construction, is necessary to establish impacts on marine mammals.
- 7.8. The noise impacts have been identified as requiring further consideration. In conjunction with a vibration assessment, the MMO suggests investigating the noise impacts when the construction methods have been established.

#### Surface water and flood risk

- 7.9. The MMO notes that sea protection works would form part of the Project.
- 7.10. The MMO would expect to be consulted on the design of any flood defence works and for a full impact assessment of the works to be undertaken.
- 7.11. These works may impact designated sites and this does not appear to have been considered so far. The MMO advises that indirect impacts are also considered during the design of the sea protection works.

#### Coastal geomorphology and hydrodynamics

- 7.12. The MMO is satisfied that the Environmental Report includes an adequate proposal for assessing coastal geomorphology and hydrodynamics. Proposed studies indicate an appreciation of the complex geomorphological processes and potential implications. The MMO expects the results of current and future investigations to inform design decisions.
- 7.13. Although it is stated that BEEMS has informed the proposed location of the jetty and cooling water infrastructure, there is no explanation for the selection. The MMO advises that this information is used to support the final location

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<sup>4</sup> Marine and Coastal Access Act 2009 (Part 9)

selection decision. As BEEMS studies have been conducted since 2008 the MMO expects the decision to be based on the most recent information.

- 7.14. Identification of environmental issues which arose during the construction of Sizewell B is encouraging, however, there are limited proposals for mitigation methods.
- 7.15. Cumulative impacts of coastal erosion and the indirect effects on hydrodynamics have been recognised. The MMO advises that consideration of engineering interventions and naturally occurring erosion are considered when devising suitable coastal and flood protection.
- 7.16. The evolution of the Sizewell-Dunwich Bank and its potential impacts on coastal processes is recognised. The MMO advises that impacts of sediment transportation to feed the bank and southwards is more accurately modelled with consideration to the impacts in the absence of Sizewell C. As the Project is the third power station in the area, it is recommended that the cumulative impacts are considered to determine indirect impacts elsewhere on the coast and offshore bank.
- 7.17. The design of sea protection measures relies on an accurate assessment of coastal processes. As coastal geomorphology and hydrodynamic studies have not yet been completed, it is not possible to determine possible impact pathways. The final sea protection design should be informed by a rigorous assessment of potential impacts, with consideration to predicted climate change implications.

#### Marine water quality and sediments

- 7.18. The baseline description does not consider whether shellfish waters are present in the area. The MMO recommends that this is determined before thermal plume modelling is conducted so as to ensure that, if present, the receptor is adequately considered.
- 7.19. The Consultation Documents report that works to determine the cooling water infrastructure location is well advanced. The MMO expects the thermal plume modelling to inform design decisions.
- 7.20. Within the coastal geomorphology and hydrodynamics section it is recognised that additional material may feed into the marine environment as a result of erosion. The marine water quality should be considered in conjunction with this assumption.
- 7.21. Construction is proposed both on the foreshore and associated with the more invasive construction of the cooling water infrastructure. The MMO recommends that consideration is given to the potential contamination of marine waters and ways in which this may be avoided or mitigated.

- 7.22. Additional water bodies in the study area are identified, however, there is no explanation of how the impacts and conditions of these bodies will be evaluated.

#### Marine ecology

- 7.23. Site specific benthic studies were conducted in 1991 followed by additional studies between 2008 and 2010. It is unclear which data sets have been used to inform the Project. The MMO suggests that data from 1991 is unlikely to be representative of current populations and recommend that a more up to date survey is conducted.
- 7.24. The Environmental Report makes no reference to spawning and nursery grounds. As discussed previously, the MMO suggests that these areas are identified and considered in order to ensure a proper assessment of the impact on local populations.
- 7.25. Intertidal and supralittoral habitat maps should be presented in support of the impact assessment.
- 7.26. The Ross worm (*Sabellaria spinulosa*) is recognised as a Biodiversity Action Plan species. It is possible that this species inhabits areas of the sand around Sizewell, however, the surveys conducted to date suggest that Ross worm has not been found so far. The MMO suggests that the details of the surveys are made available for review.
- 7.27. The Consultation Documents suggest that the current proposals for the cooling water infrastructure would cause minimal disturbance. However, there is no reference to the evidence to support this claim. The MMO advises that suitable surveys and supporting data should be used to justify the proposed methods.
- 7.28. The impact of the cooling water infrastructure upon the condition of returned organisms and their populations has not been suitably investigated. Due to the volume of commercial fisheries in the area it is important that the stocks are not adversely affected. Therefore, mitigation measures must seek to ensure the viability of the returned organisms.

#### Commercial fisheries

- 7.29. The baseline description of commercial fisheries used to inform the Environmental Report is not current and appears to contain errors. More recent data must be used to accurately assess the impacts on commercial fisheries.
- 7.30. In section 4.15.6 the Environmental Report makes reference to vessels at Lowestoft fishing inshore for cod all year round. Cod is only available during the winter months, November to March, and therefore can only be harvested during this period.

- 7.31. Furthermore, this section states that sea trout is caught using driftnets. In order to fish for sea trout an additional licence is required from the Environment Agency. The MMO is not aware of any vessels which currently hold such a licence or which fish for sea trout in Lowestoft, Pakefield or Kessingland.
- 7.32. The MMO is not aware of any beach stalls owned or used by fishermen at Pakefield and Kessingland.
- 7.33. Section 4.15.8 states that three commercial boats operate in Southwold and that beam trawlers catch brown shrimp. According to MMO records, there are 14 registered vessels operating in this area and no beam trawlers.
- 7.34. Commercial fishing is undertaken all year round by the vessel registered at Sizewell and the vessel operating from Dunwich, contrary to the statement in the Environmental Report.
- 7.35. The MMO is not aware of any vessels in the Orford and Sizewell area which fish for sea trout. As previously mentioned, to fish this species requires an additional licence from the Environment Agency.
- 7.36. According to MMO records, there are 17 active registered vessels in Felixstowe which target cod and herring in the winter and sole, skate and bass during the spring and summer. Typically this involves either long line or fish trammels for cod and trawling for sole and skate.
- 7.37. There is only one active vessel operating from Shotley Marina which fishes all year round.
- 7.38. The Environmental Report does not make reference to the spawning or nursery areas around Sizewell and therefore it is assumed they are not considered within the baseline. Significant fisheries operate in the area and there are many significant spawning and nursery grounds in the region which could be impacted by the development. The MMO suggests a more detailed assessment of the risks to spawning and nursery grounds is undertaken alongside an assessment of the consequential impact on commercial fisheries.
- 7.39. The area around Sizewell is within a Cod Recovery and Real Time Closure Zones and is therefore vulnerable to significant changes. This has not been considered and the MMO expects to see an evaluation of impacts to vulnerable species and subsequent impact on commercial fishing.

#### Navigation

- 7.40. The Environmental Report states that:

*“fishing vessels operate out of a number of home ports along the east coast.”*

This does not take into consideration the European fishing rights in the area. Belgian vessels have the right to fish for demersal species and French vessels are permitted to fish for all species. Vessels from outside the area may also fish in the region at various seasons. Consequently, the Navigational section does not accurately consider the level of fishing vessels which may operate within the area at any one time.

- 7.41. Navigational issues arising from the recreational use of the sea has previously been addressed. However, the MMO is keen to emphasise the importance of managing a balance between all marine users. The Environmental Report does not consider the navigational impacts for the different stages of the development. This should be considered in relation to the commercial and recreational use of the marine area surrounding Sizewell.
- 7.42. The MMO advises that as more information regarding proposed offshore development and recreational sea use becomes available it is applied to the navigational impact assessment, so as to ensure that it is based on the most up to date information. Furthermore, displacement which may occur as a result of marine developments should be considered.
- 7.43. The MMO expects to see an assessment of the impacts of the Project on navigation with consideration of the retention of part of the jetty. Any long-term impacts to navigation, both for commercial and recreational purposes, must be adequately evaluated and suitable mitigation proposed where required.

#### Radiological effects

- 7.44. Background information regarding the radiological impacts has been obtained from the Radioactivity in Food and the Environment reports. As these documents cover a significant period of time they should continue to be used to inform the environmental radiological baseline.
- 7.45. The Environmental Reports states that analysis of marine waters indicated a low concentration of radionuclides. The MMO expects to see further assessments to establish the potential impact on marine radionuclide concentrations for the lifetime of Sizewell C.
- 7.46. An assessment of radiological impacts on non-human species is proposed. The MMO recommends that an assessment of the potential for bioaccumulation and radiological impacts over the lifetime of the Project is undertaken.

### Permanent developments

- 7.47. The Environmental Report states that permanent developments would include cooling water infrastructure and sea protection, as well as the potential for construction of a visitors centre on Sizewell beach. Portions of the jetty may also be retained to support the operational phase of the Project.
- 7.48. Although the specific locations of the cooling water infrastructure is not stated within the consultation documents, the MMO expects that, in determining the most suitable location, the impacts to other sea users, the marine physical environment and ecology are considered. The MMO also expects to see a consideration of potential cumulative effects of the new infrastructure and existing cooling water systems.
- 7.49. When determining the scale of the jetty structure which is to be retained the environmental impacts should be considered with a particular emphasis on the impacts resulting from increased navigation to the area.
- 7.50. The Environmental Report indicates a reasonable baseline and proposals for further studies of the coastal geomorphology and hydrodynamics. The MMO supports consideration of these processes when designing the sea protection works.
- 7.51. The Sizewell Beach option for the visitors centre would potentially increase the number of visitors to the beach. If this site is selected, the MMO would expect to see an evaluation of the increased number of beach users and any consequential impacts.

### Temporary developments

- 7.52. Temporary developments would be required to support the overall construction. This would include a jetty and works on the foreshore.
- 7.53. The location of the works on the foreshore should be decided based on minimising the environmental impacts, but also with consideration to the recreational use of the beach and sea.
- 7.54. As the details of the temporary jetty are not yet known, the MMO has no additional comments to make until further information is available.