

Our reference: AE/2014/117690/01  
Your reference: EN010012



Ms Laura Allen  
Senior EIA and Land Rights Advisor  
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22 May 2014

Dear Ms Allen,

**Sizewell C Nuclear New Build Project  
Scoping Opinion – Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2009 (as amended) – Regulations 8 and 9**

We refer to your letter of 24 April 2014 which requests our views on the Sizewell C Environmental Impact Assessment (EIA) Scoping Opinion (dated April 2014) related to the proposal for a new nuclear power station and associated development sites.

**Environment Agency Position**

After reviewing the EIA Scoping Report we are pleased to see, from our perspective, that the majority of topic areas we would expect to see have been included. However there are some additional items which will need to be scoped into the process and some items which need to be expanded to ensure the EIA can be considered fit for purpose, in particular water resources and water quality. We look forward to continued engagement with NNB GenCo in the production of their Environmental Statement.

**General Comments**

*Water Resources*

There is no clear indication of how water will be sourced - either for construction, or operation. The availability of water resources is an important consideration for the proposed development. We will have to agree to the water supply strategy. The infrastructure associated with construction (for example concrete batching plants) will require significant volumes of water. Furthermore, there is no indication of how water will be sourced for the large number of workers who would be resident on the accommodation campus. There will presumably also be a potable water supply requirement for the operational power station. Given the local environmental setting, and the scarcity of water resources in Eastern England, this is an important consideration and may directly effect design proposals. It is therefore our view that the issue of water resources must be scoped into the EIA.

Further information can also be found in the East Suffolk Abstraction Management Strategy, which is available at the following link: <https://www.gov.uk/government/publications/cams-east-suffolk-abstraction-licensing-strategy>

*Water Quality*

The issue of sewage disposal is an important aspect that needs careful consideration to ensure there is no adverse environmental impact (particularly given the downstream location of the Sizewell Marshes SSSI). NNB GenCo's foul drainage strategy should address the construction and operational phases of development for the main site and where applicable associated development sites. We will need to agree the sewage disposal strategy. There are a number of potential options for disposing of foul water which will require detailed consideration and consultation with relevant organisations. The potential impacts associated with each option will need to be assessed and therefore it is our view that this needs to be scoped into the EIA.

It must be ensured that any risk to the water environment is minimised both during construction and operation of the site. Adequate controls and measures need to be fully considered and incorporated into the design of the site to minimise any risk of pollution to the water environment. It is our view that this needs to be highlighted in the EIA.

### **Detailed Comments**

Please see our detailed comments on NNB GenCo's EIA scoping below. For ease of reference we have followed the same order of the headings presented in the EIA Scoping Opinion report.

## **2. Consenting Regimes and Environmental Assessment**

### **2.2 Other Relevant Consents**

2.2.6 – This section provides a useful context regarding the permits that will be required from the Environment Agency under the Environmental Permitting Regulations (England and Wales) 2010. It could go further to explain the interaction with the EIA regulations.

#### *Consenting Requirements*

Any works in, under or over the channel of a main river or within 9 metres of the top of the bank will require Flood Defence Consent from us under Sections 109 and 210 of the Water Resources Act 1991 and associated land drainage and sea defence byelaws. This is to ensure that flood risk is not increased, as well as to ensure our ability to carry out our permissive powers is not adversely affected by the works.

Flood Defence Consent is also likely to be required under our land drainage and sea defence byelaws for the works taking place along the coastal frontage due to the proximity to the sea defences for example the flood defence modification works.

### **2.3 Related Assessments**

#### *(a) Habitat Regulations Assessment*

The EIA and HRA process is interlinked this needs to be reflected in NNB GenCo's approach. Evidence which forms the foundation of the EIA process is also required for the HRA and permitting process.

#### *(b) Flood Risk Assessment*

2.3.4 – 2.3.5 – The FRA must include and take full account of a number of issues that are identified for inclusion in the EIA Scoping Report which have a bearing on flood risk. This includes coastal geomorphology and hydrodynamics (including the potential for increased risk from coastal erosion) surface water and groundwater flood risk.

Whilst a separate FRA is to be produced and will address flood risk issues this will need to be cross-referenced and any impacts highlighted in the EIA.

## **3. Description of the Proposed Development**

### **3.2 Main Development Site**

The description of the project seems to be high level. However it is unclear if this section is intended to be an exhaustive list of infrastructure or just intended to identify key infrastructure. There is for example, no mention of standby generators, which will require an environmental permit from us to operate.

3.2.4 – It is stated that the permanent development is to be built at approximately 6.4mAOD. The final level is to be determined through the FRA process.

### **3.7 Conventional Waste Management**

3.7.4 – The first bullet point confirms that the main waste streams and predicted volumes likely to arise from the construction, operation and post-operation phases will be identified. The waste assessment should identify all possible options and routes for all waste arisings, and provide full justifications of why

any will not be pursued. The waste assessment needs to apply to both the main site and associated development sites.

### **3.8 Spent Fuel and Radioactive Waste Management**

This section refers to storage of spent fuel but makes no reference to other alternatives for dealing with spent fuel (e.g. reprocessing). This is not covered in the section on alternatives. The EIA should include this topic area.

There is no reference in the report to the application of Best Available Technology (BAT) or the waste hierarchy to minimise volumes and activity of radioactive wastes. This needs to be incorporated into the EIA.

## **5. Approach to the EIA**

### **5.3 Assessment of Effects and Determining Significance**

Table 5.1 – For each of the ‘value/ sensitivity’ categories there is a generic guideline for the assessment of sensitivity. The guidelines centre round environmentally important and designated areas and features. Whilst the purpose of the table appears to be to provide more generic guidelines, it is not clear which category other features, such as watercourses or ditches, would fit into. Whilst these features may not be located within a designated site (although some are) they are nevertheless important features, often upstream of designated sites, which support and sustain aquatic ecology. As such, any impacts or effects to such features not listed need to be given appropriate consideration in the EIA.

## **7. EIA – Main Development Site**

### **7.2 Terrestrial Ecology and Ornithology**

Table 7.2.1 – There is no reference to fish and eels in this table which sets out the proposed study areas for potential ecological resources. There are potential impacts to fish and eels associated with the main development site, including from the possible re-routing of the Sizewell Ditch. For this reason fish and eels need to be scoped into the EIA.

Table 7.2.2 – We consider that reference also needs to be made to Dew’s Ponds SAC which has been identified through Habitat Regulation Assessment work to date.

### **7.7 Noise and Vibration**

Impacts from the periodic testing of the back-up, emergency diesel generators should be incorporated into this section.

### **7.8 Air Quality**

#### *(c) Approach and methodology*

7.8.14 – Reference is made to the Environment Agency (2010) Horizontal Guidance Note H1. This should be 2011.

#### *(iv) Assessment methodology – Construction methodology*

7.8.46 – It is suggested that the modelling will only be undertaken for short-term averaging periods because combustion emissions sources are expected to only be used as back-up on a short term basis. The worst case scenario needs to be considered and the likely impacts assessed. Further information about what the likely period of operation of the diesel generators and the justification/ evidence for the period selected is required.

#### *(v) Assumptions and limitations*

7.8.48 – This paragraph suggests the operator may need to duplicate work. We recommend that the potential worst case scenarios are considered (e.g. prolonged operation due to breakdown/maintenance etc). This assessment may then be suitable for both planning and permitting regimes.

7.8.54 – Point sources emissions from diesel generators must include total particulates, PM10 and PM2.5, CO, NO<sub>x</sub> and SO<sub>2</sub>. Potential receptors include ecological sites up to 15km from the point source emission points.

## **7.11 Groundwater and 7.12 Surface Water**

### *Water Resources*

There is no clear indication of how water will be sourced - either for construction, or operation. The availability of water resources is an important consideration for the proposed development. We will have to agree to the water supply strategy. We refer you back to our earlier general comments on water resources.

Any effect of a proposed abstraction on local features needs to be undertaken. We recommend NNB GenCo contact us at an early stage to discuss this issue given the scarcity of water resources discussed and potential restriction which may occur.

### *Foul Water*

The issue of sewage disposal is an important aspect that needs careful consideration to ensure there is no adverse environmental impact. We will have to agree to the sewage disposal strategy. We refer you back to our earlier general comments on water quality.

### *(c) Approach and methodology*

7.12.13 – The results of the monitoring detailed in this paragraph is as expected.

7.12.14 – Reference should no longer be made to the Freshwater Fish Directive as this has now been revoked. Sole reference should be made to the WFD standards.

7.12.21-23 – It is important that opportunities to improve watercourses should be considered in addition to just protecting them.

7.12.26 (fifth bullet point) – Water Framework Directive (WFD) Environmental Quality Standards apply to all water bodies.

### *(d) Potential Impacts and Effects*

7.12.27 – We refer you back to our earlier general comments on foul water disposal.

7.12.29 – Eroded sediment has the potential to lead to the blanketing of channels which could cause negative impacts to habitat. Windblown soil also needs to be considered as a significant issue as the soils are generally very light and tend to be blown when dry.

7.12.40 – Land quality should also be included as an inter-relationship as there is a potential inter-relationship between surface water impacts and land quality.

## **7.13 Coastal Geomorphology & Hydrodynamics**

7.13.16 – It is recognised in the Scoping Report that there is a possible risk of coastal geomorphology South of Thorpeness being affected by the construction. We therefore consider that Policy Development Zone 5 – Thorpeness to Orfordness – of the Suffolk Shoreline Management Plan 2 is also included in the list of national policy and legislation.

7.13.39 – The potential impacts on coastal geomorphology and hydrodynamics resulting from the decommissioning of Sizewell B need to be assessed as part of the cumulative effects.

## **7.14 Marine Water Quality & Sediments**

7.14.3 – We note that modelling work has been undertaken in accordance with Environment Agency modelling guidelines. We will need to review and agree the modelling work.

7.14.7 – We do not consider this can be the baseline; the impacts from Sizewell C also need to be assessed with Sizewell B in operation as the overlap in operation is potentially significant.

7.14.9 – To determine whether this approach is appropriate we will need to review and agree these models.

### **7.15 Marine Ecology**

Table 7.15.1 - Work in relation to Entrainment Mimic Unit has been completed. We will need to review and agree this work as part of the British Energy Estuarine and Marine Studies (BEEMS) reports.

7.15.4 – We consider the zone of effect to extend to the wider fisheries ecology rather than just the area impacted by the plumes.

7.15.5 – The EIA needs to include fish populations more generally and not just commercial fisheries.

7.15.21 – We refer to the fifth bullet point which reads “*the maintenance of any maritime exclusion zones around beach landing and offshore structures, during construction or operation*”; it is unclear what this relates to. Further information will be required in the EIA on the nature of these exclusion zones and what “maintenance” actually means.

7.15.37 – There is no mention of key impacts – both interdependent and cumulative on fish populations. The adverse impacts of impingement /entrainment and the impacts of chemical and thermal discharges on the fish populations is a key consideration which needs to be addressed in the EIA.

### **7.17 Radiological**

7.17.4 – It is unclear what the justification is for bounding the radiological impacts of decommissioning to those for routine operational activities. Discharges during operations will be different from those during decommissioning.

The impacts associated with the decommissioning of a reactor will be addressed under a separate EIA as required under the Nuclear Reactors (Environmental Impact for Decommissioning) Regulations 1999 (as detailed in paragraph 7.17.9).

7.17.10 – For completeness, we draw your attention to a new habits survey that is due to take place around Sizewell in early 2015. This may conclude that the critical group in the area is different to that currently postulated. Furthermore, the impact assessment needs to be flexible enough to accommodate changes to future pathways over time.

7.17.14 – Further baseline data will also be available through the Sizewell environmental monitoring programme (which is a permit requirement placed on both Sizewell A and Sizewell B). Sizewell A currently co-ordinate the programme so will hold the relevant data.

7.17.27 – We note that an assessment of discharges will be included in the EIA which we support. A point to consider will be whether discharges will be modelled on a continuous discharge or on a more realistic model (e.g. Pressurised Water Reactor peak discharges during re-fuelling outages).

7.17.40 – It should be noted that assessment of impacts to non-human species forms part of the environmental permitting process.

7.17.53 – The application of BAT is required through our permit rather than through OSPAR (OSPAR is an international treaty that places certain obligations on the UK Government). The application of BAT does not “ensure” compliance.

7.17.58 – It is important that the cumulative impact assessment includes worst case scenarios, such as a refuelling outage at Sizewell B and C at the same time resulting in peak discharges to the environment.

## **8. EIA – Associated Development Site**

8.1.4 – The final sentence of the second bullet point states that “*flooding has been addressed within the surface water sections*”. We note that flood risk has not been considered in section 7.12 (surface water) so this reference to flooding must be under the environmental topic of ‘surface water’ for each associated development site.

### **8.2 Northern park and ride**

Table 8.1 includes protected species surveys. We are aware that otters are in this general location and should be recognised in table 8.4.

Table 8.2 identifies potential impacts and effects to water quantity and quality in the Minsmere River and Darsham Marshes both during construction and operation of the site. We refer you back to our earlier general comments on water quality at the start of our response. Of particular concern is the disposal of foul water and preventing pollution from surface water run-off to the identified receptors – the site is to include a welfare building, including toilets, with capacity for approximately 1,000 cars and bus terminus.

We refer you back to our earlier general comments on water resources. Of particular concern is how water will be sourced both during construction and operation to ensure there is no significant harm to the environment.

The site is located within Flood Zone 1. The site is approximately 28 hectares and so the management of surface water will be important to ensure flood risk is not increased off-site. Flood risk is to be addressed in the FRA however any impacts need to be highlighted in the EIA.

### **8.3 Southern park and ride**

We refer you back to our general comments on water quality. Of particular concern is the disposal of foul water and preventing pollution from surface water run-off – the site is to include a welfare building, including toilets, with capacity for approximately 1,000 cars and bus terminus.

We refer you back to our earlier comments on water resources. Of particular concern is how water will be sourced both during construction and operation to ensure there is no significant harm to the environment.

The site is located within Flood Zone 1. The site is approximately 43 hectares and so the management of surface water will be important to ensure flood risk is not increased off-site. Flood risk is to be addressed in the FRA however any impacts need to be highlighted in the EIA.

### **8.4 Rail line extension**

Three rail extension options are included – a new rail terminal and freight laydown area, a green route, and a blue route.

There are no rivers located within or adjacent to the options for a new rail terminal and freight laydown area or the green route. Considering this we concur that this particular issue can be scoped out of this section of the EIA. We refer you back to our earlier general comments on water quality. Of particular relevance is minimising any risk of pollution to the water environment.

The proposed blue route is however located close to, and crosses, the Thorpeness Hundred River. We agree that the potential impact to the water environment through pollution, both during construction and operation, needs to be assessed in the EIA. The blue route is located within Flood Zone 1; the management of surface water will be important. In addition, we will need to agree the design of the culvert, where the rail route crosses the river, to ensure this does not negatively impact on the

conveyance of the river. Flood risk is to be addressed in the FRA however any impacts need to be highlighted in the EIA.

### **8.5 A12 improvement – Farnham Bend**

It is recognised that Option 1 (bypass option) represents the most substantial in terms of potential environmental impacts. As such section 8.5 focuses on the bypass option.

The proposed route crosses the River Alde, which is a European Eel migratory route, and an area of woodland/grassland which contains a number of interconnecting ditches and ponds. It is likely that this area provides suitable habitat for water vole, otter and brook lamprey. The ponds in the area may well be suitable for amphibians. We support the further surveys and studies identified in table 8.10.

The proposed bypass option would cross the River Alde (Main River) floodplain - Flood Zone 3, an area of high flood risk. A separate FRA is to be produced. Flood risk is referred to within the surface water section of tables 8.11 and 8.12; the FRA must consider all relevant sources of flooding including fluvial flood risk as well as surface water flood risk. Whilst flood risk is to be addressed in the FRA any impacts need to be highlighted in the EIA.

We have a flow gauging station just downstream, adjacent to the A12 road bridge, which might be adversely affected from the bypass option. Any potential impacts to the function of this station must be assessed and considered at an early stage. It is crucial that our ability to measure flows and use this station for operational purposes is not compromised.

### **8.6 Visitor Centre**

We refer you back to our earlier general comments on water quality under the Environment Agency's position at the start of our response. Of particular relevance is minimising any risk of pollution to the water environment.

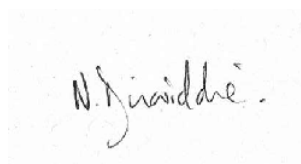
## **9. Summary**

### **9.2 Indicative Proposed ES Structure**

9.2.1 – The ES will need to assess any cumulative effects associated with the proposed development. As such we support the inclusion of a cumulative assessment (proposed as volume 9). There are four distinct phases to the proposed development; these include site preparation, construction, commissioning and operation, and decommissioning. It is important that the ES is structured in such a way that assists in defining and assessing the environmental issues relevant to each of the phases, but also the cumulative effects where there are overlaps. This should help define the potential impacts (alone and in combination), and establish whether the proposed mitigation is sufficient.

Should you have any questions then please do contact me on the details below.

Yours sincerely,



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