

# **The Keadby Next Generation Power Station Project**

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**The Keadby Next Generation Power Station Development Consent  
Order [year]**

## **Environmental Statement (ES)**

### **Volume II – Appendix 1B Scoping Opinion**

**The Planning Act 2008**

**The Infrastructure Planning (Environmental Impact Assessment)  
Regulations 2017**

**Applicant: Keadby Next Generation Limited**

**Date: August 2025**

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## Document History

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Project Note: In correspondence and documentation at EIA scoping stage, the Applicant used the name 'SSE Hydrogen Developments Limited' and the project name 'Keadby Hydrogen Power Station' for the Proposed Development. A new project company named 'Keadby Next Generation Limited' was subsequently set up in November 2024, ahead of consultation, and the Applicant and project names were aligned to this thereafter.



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# **SCOPING OPINION:**

## **Proposed Keadby Hydrogen Power Station Project**

**Case Reference: EN0110001**

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Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

**10 June 2024**



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## 1. INTRODUCTION

- 1.0.1 On 30 April 2024, the Planning Inspectorate (the Inspectorate) received an application for a Scoping Opinion from SSE Hydrogen Developments Limited (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Keadby Hydrogen Power Station Project (the Proposed Development). The Applicant notified the Secretary of State (SoS) under Regulation 8(1)(b) of those regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development and by virtue of Regulation 6(2)(a), the Proposed Development is 'EIA development'.
- 1.0.2 The Applicant provided the necessary information to inform a request under EIA Regulation 10(3) in the form of a Scoping Report, available from:
- [EN0110001-000005-KDBH - Scoping Report.pdf \(planninginspectorate.gov.uk\)](#)
- 1.0.3 This document is the Scoping Opinion (the Opinion) adopted by the Inspectorate on behalf of the SoS. This Opinion is made on the basis of the information provided in the Scoping Report, reflecting the Proposed Development as currently described by the Applicant. This Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.0.4 The Inspectorate has set out in the following sections of this Opinion where it has / has not agreed to scope out certain aspects / matters on the basis of the information provided as part of the Scoping Report. The Inspectorate is content that the receipt of this Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects / matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects / matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 1.0.5 Before adopting this Opinion, the Inspectorate has consulted the 'consultation bodies' listed in Appendix 1 in accordance with EIA Regulation 10(6). A list of those consultation bodies who replied within the statutory timeframe (along with copies of their comments) is provided in Appendix 2. These comments have been taken into account in the preparation of this Opinion.
- 1.0.6 The Inspectorate has published a series of advice pages that are intended to inform applicants, consultees, the public and others about a range of process matters in relation to the Planning Act 2008 (PA2008), including [Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping \(AN7\)](#). AN7 and its annexes provide guidance on EIA processes during the pre-application stages and advice to support applicants in the preparation of their ES.
- 1.0.7 Applicants should have particular regard to the standing advice in AN7, alongside other advice pages, available from:

<https://www.gov.uk/government/collections/national-infrastructure-planning-advice-notes>

- 1.0.8 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on formal submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.

## 2. OVERARCHING COMMENTS

### 2.1 Description of the Proposed Development

(Scoping Report Chapters 1 and 3)

ID	Ref	Description	Inspectorate's comments
	Section 2.1, 3 <sup>rd</sup> and 6 <sup>th</sup> bullet	Identification of features	It is stated that the water connection corridors would follow the routes of the existing River Trent intake and outfall pipework associated with the Keadby 1 and 2 power stations. Appendix A1.5, which contains a plan of surface and groundwater bodies, identifies the 'Humber Upper' but does not identify the River Trent. Para 6.5.1.2 of the Report subsequently explains that the River Trent forms part of the Humber Upper waterbody. Care should be taken to ensure that the naming of features on ES plans is consistent with the names set out in the main text so that the plans can be easily understood, and relevant features are correctly identified. In addition, it should be clear on the plans which are the intake and which are the outfall connections.
	Section 2.1, 4 <sup>th</sup> bullet and Section 3.3	Electrical connection	It is stated that the proposed electrical connection corridors will either connect the Proposed Development to the existing adjacent 400 kilovolt (kV) substation or provide a new 132kV connection. However, in the description within Section 3.3 of the proposed infrastructure, reference is made only to electrical infrastructure required to connect the Combined Cycle Gas Turbine (CCGT) to the existing substation. The description of the Proposed Development contained within the ES should be consistent throughout and if alternative options are presented the worst-case scenario should be assessed, which may vary between aspects.



ID	Ref	Description	Inspectorate's comments
	Section 2.1, 5th bullet	Construction access routes	It is stated that the proposed construction access routes include a haul route (proposed for the Keadby 3 Power Station) which is being consented under a separate planning application submitted to North Lincolnshire Council. If this haul route does not form part of the Proposed Development it is unclear why it is included in the description of the elements on the Site, whether it has been included within the Order Limits shown on the plans within the Appendices, and how it is to be considered within the ES. This should be clarified in the ES.
	Section 2.1, 6th bullet and para 6.3.1.8	Waterborne transport of construction components	It is explained in Section 2.1 that waterborne transport via the River Trent may be utilised for the delivery of abnormal indivisible loads (AIL) during construction. However, para 6.3.1.8 refers to use of the Stainforth and Keadby Canal. This should be clarified in the ES and assessments provided accordingly.
	Section 2.1, 9th bullet	Biodiversity mitigation and enhancement areas	It is stated that areas of the Site will be used for biodiversity mitigation and enhancement. The ES and its accompanying figures should clearly differentiate between areas of land proposed for mitigation and those proposed for enhancement purposes.
	Section 2.1	Demolition	It is indicated that demolition activities may be required on the Site. These should be described in the ES and impacts assessed accordingly.
	Section 3.1	Fuel use	The Scoping Report states that the Proposed Development will be designed to run on 100% hydrogen, but may need to operate using 100% natural gas until such time as a commercially viable hydrogen supply chain option becomes available.  The ES should explain whether the choice of fuel will have any implications for the design and technology of the Proposed

ID	Ref	Description	Inspectorate's comments
			Development. The ES should establish reasonable worst-case scenario(s) in terms of use of natural gas, hydrogen, or blending of natural gas and hydrogen as a fuel (eg a timeline for achieving increasing fractions of hydrogen blending) and assess these accordingly.
	Section 6.15	Combined Heat and Power (CHP)	<p>The Scoping Report identifies that a CHP assessment is not formally part of the ES. On this basis, the Inspectorate provides no comment relating to the CHP assessment.</p> <p>However, should the CHP assessment identify opportunities which would lead to the requirement to establish CHP infrastructure, then the environmental impacts of the construction, operation and, if relevant, decommissioning, of this infrastructure should be assessed in the ES, where significant effects are likely to occur.</p>
	Section 6.16	Carbon Capture Readiness (CCR) Assessment	<p>The Scoping Report notes the requirement for the Proposed Development to demonstrate CCR until the new Decarbonisation Readiness Guidance is formally adopted, and that the Applicant intends to produce a standalone CCR report to demonstrate compliance. This is not part of the ES and the Inspectorate makes no comment relating to this assessment.</p>
	n/a	Hydrogen storage	<p>The Scoping Report makes no reference to any requirement for on-site hydrogen storage. The ES should clarify if this will be required to enable 'Hydrogen Readiness' and assess the impacts of such infrastructure accordingly.</p>



## 2.2 EIA Methodology and Scope of Assessment

(Scoping Report Chapter 8)

ID	Ref	Description	Inspectorate's comments
	3.7, 7.6 & Table 16	Decommissioning	<p>Section 3.7 describes what is likely to happen at the end of the Proposed Development's operating life.</p> <p>Potential impacts as a result of decommissioning the Proposed Development are proposed to be scoped out on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction, for each topic area.</p> <p>Where the construction phase has been scoped in on the basis that significant effects could occur, this suggests that there is potential for significant effects to occur during the decommissioning phase. Where it is assumed that the effects of decommissioning are likely to be similar to or no worse than the effects from construction, this should be justified.</p> <p>The ES should provide a proportionate description of the activities and works which are likely to be required to decommission the Proposed Development or extend its operational life, and the anticipated duration. Where significant effects are likely to occur as a result of works to decommission the Proposed Development or extend its operational life, these should be described and assessed in the ES.</p>
	Section 4	Alternatives - fuel	<p>The Scoping Report states that an alternative approach would be to develop a standard natural gas-fired CCGT which is subsequently converted to enable 100% hydrogen-firing; <i>"however this would add time, cost and complexity and is not considered to be the most efficient means of achieving SSE's and</i></p>

ID	Ref	Description	Inspectorate's comments
			the <i>UK's net zero ambitions</i> ". To provide further context, the Inspectorate recommends this is elaborated on in the ES.
	Section 4	Alternatives - cooling	The Scoping Report proposes a hybrid approach to cooling. The alternatives considered in coming to this decision should be set out in the ES and the environmental considerations explained.
	Section 7.7	Electronic interference to television and radio signals, and mobile phone reception	Based on the reasoning and evidence presented in the Scoping Report, the Inspectorate is content that this matter is not likely to result in significant effects. It can be scoped out of the assessment.
	Section 7.8	Aviation (civil)	<p>It is proposed to scope out impacts on aviation based on the height of the stacks and buildings, which are anticipated to be comparable to the heights of structures and stacks within the Keadby 2 and Keadby 1 Power Stations (85m and 60m respectively).</p> <p>Having regard to the characteristics of the Proposed Development, the Inspectorate is content that significant environmental effects on civil aviation are unlikely to occur. The Inspectorate agrees that should the need for taller structures arise, the need for an aviation assessment should be reviewed in consultation with relevant consultation bodies including the Civil Aviation Authority.</p>
	Section 7.8	Aviation (military)	The Proposed Development is located in an area within which military aircraft may conduct low level flight training. The Applicant's attention is drawn to the requirements proposed by the Ministry of Defence in their consultation response (see Appendix 2 of this report) to maintain military aviation safety. The Inspectorate considers a separate assessment on impacts to military aviation is not necessary, however the risks to military aircraft should be addressed in the Major Accidents and



ID	Ref	Description	Inspectorate's comments
			Disasters aspect chapter and mitigation proposed where required.
	8.2.1	Baseline conditions	The Scoping Report refers in several places to using/ reviewing data produced to inform the Keadby 3 Development consent Order (DCO). Where data from the Keadby 3 project is used, the ES should ensure this is comprehensive and sufficiently up to date. Agreement on data sources should be sought from relevant consultation bodies and this should be evidenced in the ES where possible.
	8.2.1	Future baseline	The Scoping Report explains that the future baseline will factor in proposals to decarbonise Keadby 2 Power Station (through carbon capture or hydrogen firing). The ES should also explain the proposals/scenarios for Keadby 1 Power Station (eg decommissioning) and identify a reasonable worst-case scenario for the assessments.
	8.2.1	Mitigation and monitoring	The ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured through DCO requirements/ Deemed Marine License conditions (or other suitably robust methods) and whether relevant consultation bodies agree on the adequacy of the measures proposed.
	n/a	Study area	The Scoping Report proposes study areas for the aspect chapters with little explanation/ justification for the areas chosen. The ES should provide evidence to support the choice of study area(s), referencing relevant guidance where available. Agreement should be sought from relevant consultation bodies and this should be evidenced in the ES where possible.



ID	Ref	Description	Inspectorate's comments
	n/a	Transboundary	<p>The Inspectorate on behalf of the SoS has considered the Proposed Development and concludes that the Proposed Development is unlikely to have a significant effect either alone or cumulatively on the environment in a European Economic Area State. In reaching this conclusion the Inspectorate has identified and considered the Proposed Development's likely impacts including consideration of potential pathways and the extent, magnitude, probability, duration, frequency and reversibility of the impacts.</p> <p>The Inspectorate considers that the likelihood of transboundary effects resulting from the Proposed Development is so low that it does not warrant the issue of a detailed transboundary screening. However, this position will remain under review and will have regard to any new or materially different information coming to light which may alter that decision.</p> <p>Note: The SoS' duty under Regulation 32 of the 2017 EIA Regulations continues throughout the application process.</p> <p>The Inspectorate's screening of transboundary issues is based on the relevant considerations specified in the Annex to its Advice Note Twelve, links for which can be found in paragraph 1.0.7 above.</p>

### 3. ENVIRONMENTAL ASPECT COMMENTS

#### 3.1 Air Quality

(Scoping Report Section 6.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.1.2.1, 7.1 and Table 16	Dust from demolition and construction	<p>The Scoping Report proposes to scope out the assessment of potential fugitive emissions of dust from demolition and construction works and emissions from plant equipment on the basis that with the implementation of best practice control measures, the impacts on dust soiling, human health and biodiversity will be negligible.</p> <p>However, no further details are provided on this including the type of air sensitive receptors, their distance away from emission sources and what kinds of control measures to be implemented. On this basis the Inspectorate does not agree to scope this matter out at this stage.</p>
	Table 16	Road traffic emissions assessment – operational phase	<p>The Scoping Report proposes to scope out an assessment of the effects of operational traffic by applying screening criteria in order to determine the potential for significant air quality effects.</p> <p>The Inspectorate is content for this matter to be scoped out of the ES, should the traffic levels be below the relevant screening thresholds. The ES should cross reference with the findings in the traffic and transport chapter to justify this position. The Inspectorate draws the Applicant's attention to ID 3.3.1 in relation to the estimation of operational traffic.</p>



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Table 16	Air quality assessment – decommissioning phase including road traffic	See ID2.2.1. The ES should provide a prediction of activities and works (including the anticipated duration) which are likely to be required during decommissioning which could impact human health and ecological receptors and highlight any differences between the construction and decommissioning phases.
	6.1.2.2	Operational emissions – pollutant species	The Inspectorate agrees that emissions of sulphur dioxide and particulates from natural gas fired power stations are likely to be negligible and therefore no assessment of these pollutant species is required.

ID	Ref	Description	Inspectorate's comments
	6.1.1.2	Existing baseline	The Scoping Report states that existing baseline air quality at the site will be determined by using data from nearby representative automatic monitoring stations, supplemented with published local authority air quality monitoring, Defra air quality data and UK Air Pollution Information System (APIS). The ES should explain how this data is representative of the Proposed Development. The ES should include a figure(s) depicting the locations of all air quality monitoring stations used to inform the air quality assessment. The ES should make efforts to agree its air quality baseline with the appropriate statutory consultees.
	6.1.2.2	Study area	The ES should also include a figure(s) that depict the study area, air quality monitoring sites used to inform the assessment and sensitive receptors considered.

ID	Ref	Description	Inspectorate's comments
	6.1.2.2	Stacks	<p>It is noted that waste gases from the CCGT are released into the atmosphere via an exhaust stack and a dispersion modelling study will be used to determine the most appropriate height for the CCGT stack.</p> <p>The ES should describe any uncertainties or assumptions used within the model for determining the height of the stack(s).</p>
	6.1.2.2	Air quality assessment – operational phase	<p>The Scoping Report 3.1 states that the Proposed Development will be designed to run on 100% hydrogen, however, the Proposed Development would also need to be able to operate using natural gas as an alternative due to uncertain hydrogen supply chain anticipated at the start of operation.</p> <p>The ES should clearly set out the worst-case scenario for each use of fuel option (ie natural gas (with or without carbon capture), or hydrogen, and blending of natural gas and hydrogen).</p> <p>The air quality assessment should consider the associated emissions resulting from the identified worst-case scenario and assess any potential impacts from these emissions to sensitive receptors where significant effects are likely to occur.</p>

## 3.2 Noise and Vibration

(Scoping Report Section 6.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	7.2 and Table 16	Noise and vibration (road traffic) – operational phase	The Scoping Report proposes to scope out this matter on the basis that significant increases in road traffic noise and vibration during operation are not expected to occur. Considering the nature of the Proposed Development, the Inspectorate is content that this matter may be scoped out however the ES should cross reference with the findings in the traffic and transport chapter to justify this position. The Inspectorate draws the Applicant's attention to ID 3.3.1 in relation to the estimation of operational traffic.
	6.2.2, 7.2 and Table 16	Noise and vibration – decommissioning phase including road traffic	See ID2.2.1.  The ES should provide a prediction of activities and works (including the anticipated duration) which are likely to be required during decommissioning which could impact human health and ecological receptors and highlight any differences between the construction and decommissioning phases.
	6.2.2	Vibration (operational activities)	The Scoping Report proposes to exclude this matter from detailed analysis in the ES on the basis that significant vibration impacts associated with operational activities are considered unlikely due to the distance between the Proposed Development and receptors. On this basis the Inspectorate agrees this matter can be scoped out.



ID	Ref	Description	Inspectorate's comments
	6.2.1	Ecological receptors	<p>The Scoping Report states that there are sensitive ecological sites which have the potential to be impacted by noise and vibration emission from the Proposed Development and criteria will be discussed in the ES for determining the significance of noise and vibration impacts on relevant sensitive ecological receptors.</p> <p>No relevant ecological receptors are provided in the Scoping Report. The ES should identify the ecological receptors that require consideration in respect of noise and vibration impacts. Where this has potential to influence other assessments, this should be cross referenced eg Biodiversity and Nature Conservation.</p>
	6.2.1	Sensitive receptors	<p>The Scoping Report includes the noise sensitive receptors to be assessed and agreed with North Lincolnshire Council. The Inspectorate considers that the ES should also identify receptors sensitive to changes in vibration.</p>
	6.2.2	Vibration assessment – construction phase	<p>Where any construction activities that will generate vibration (ie pilling) are required, the ES should include details on the method to be used, expected duration and timing of such activities. The ES should assess any potential impacts from these activities on receptors sensitive to changes in vibration where significant effects are likely to occur.</p>
	n/a	Underwater noise and vibration	<p>Should the construction programme include activities in the aquatic environment that have the potential to impact aquatic species, the ES should assess underwater noise and vibration impacts on underwater receptors where significant effects are likely to occur.</p>

### 3.3 Traffic and Transport

(Scoping Report Section 6.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.3.2 and Table 16	Operational phase road traffic assessment	<p>The Scoping Report proposes to scope out the operational traffic assessment on the basis that the operational traffic movements are assumed will be below screening thresholds specified in the Institute of Environmental Management and Assessment (IEMA) Guidelines – Environmental Assessment of Traffic and Movement (2023).</p> <p>No estimate of operational traffic volumes is provided, but having regard to the characteristics of the site, the Proposed Development, the receiving environment and the anticipated magnitude of the impacts, the Inspectorate is content for this matter to be scoped out of the ES. The ES description of development should clearly set out the operational vehicle types and numbers (with reference to thresholds within guidance) to justify this position and evidence any agreement reached with relevant highways authorities.</p>
	6.3.2 and Table 16	Decommissioning phase road traffic assessment	<p>See ID2.2.1.</p> <p>The ES should provide a prediction of traffic flows (including the anticipated duration) which are likely to be required during decommissioning which could impact transport network and highlight any differences between the construction and decommissioning phases.</p> <p>The Applicant's attention is drawn to the suggested Requirement pertaining to a Decommissioning Traffic Management Plan proposed by National Highways (Appendix 2).</p>



ID	Ref	Description	Inspectorate's comments
	6.3.1.8	Waterborne transport and navigation	<p>The Scoping Report states that waterborne transport may be utilised for the delivery of Abnormal Indivisible Loads (AIL) and deliveries of plant during construction. The ES should assess the impacts to navigation of any waterborne transport with consideration on the worst-case number of AIL and delivery routes. The ES should also assess any obstruction impacts resulting from the use of Railway Wharf upon the operation of Keadby Lock and impacts on commercial navigation in the River Trent arising from construction of new pipelines or intake/discharge infrastructure (see comments from the Canal and River Trust and Associated British Ports in Appendix 2).</p> <p>If mitigation is required (eg a Wharf Management Plan), it should be clear how this will be secured in the DCO.</p>
	6.3.2.1	Heavy Goods Vehicle (HGV) traffic	<p>The Scoping Report 6.3.2.1 listed those effects associated with HGV traffic increases that will be considered in the ES. The ES should also identify impacts to railway assets associated with HGV traffic/haulage routes that may utilise railway assets (such as bridges and level crossings) during the construction and operational phases and assess these where there is the potential for significant effects.</p>



### 3.4 Biodiversity and Nature Conservation

(Scoping Report Section 6.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.4.2	Decommissioning – effects on ecological receptors	See ID2.2.1. The ES should provide a description of the activities and works (including the anticipated duration) which are likely to be required during decommissioning which could impact ecological receptors and highlight any differences between the construction and decommissioning phases.
	6.4.2	Air quality, including dust	The Scoping Report proposes to assess air quality at operation only. The ES should also assess the impacts to air quality arising during the construction and decommissioning phases or demonstrate the absence of potentially significant effects.
	6.4.2	Potential effects – spread of invasive non-native species (INNS)	Potential spread of INNS should be considered as an impact pathway as part of the assessment. The Inspectorate advises that the ES should identify and describe any INNS present in the baseline and include an assessment if there is the potential for significant effects to occur.
	6.5.1.3.	Crowle Borrow Pits Site of Special Scientific Interest (SSSI) and Hatfield Chase Ditches SSSI – water environment impact assessment	The Scoping Report states that there does not appear to be any direct flow pathways between these SSSIs and the Proposed Development and so they will not be considered any further by the water environment impact assessment. The Inspectorate agrees that these SSSIs can be scoped out of any water environment impact assessment.
	7.3	Great crested newt surveys	Additional surveys for great crested newts (GCNs) are proposed to be scoped out from the ES owing to an absence of suitable

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			breeding habitat and an absence of the species in desk study records of the local area.  The Inspectorate is content to scope out additional surveys for GCN on this basis.
	7.3	Reptile surveys	Additional surveys for reptiles are proposed to be scoped out on the basis that the Preliminary Ecological Appraisal (PEA) demonstrated that the habitats present at the Proposed Development site are not likely to support a faithful population.  The Inspectorate is content to scope out additional surveys for these species on this basis (provided the findings of the PEA are evidenced in the ES).
	7.3	Wintering and passage bird surveys	Additional surveys for wintering and passage birds are proposed to be scoped out as the PEA demonstrated that the habitats present are not likely to be of importance for wintering and passage bird species or assemblages. Data for the HRA will be obtained from third party providers.  The Inspectorate is content to scope out additional surveys for these species on this basis, provided the findings of the PEA are evidenced in the ES, subject to evidence of the agreement with Natural England.
	7.3	Terrestrial invertebrate surveys	Additional surveys for terrestrial invertebrates are proposed to be scoped out on the basis that the PEA demonstrated that the habitats present at the Proposed Development site are not likely to support notable invertebrate assemblages, with the exception of the Keadby Ash Tip.



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			The Inspectorate is content to scope out additional surveys for these species on this basis, provided the findings of the PEA are evidenced in the ES.
	n/a	Specific survey(s) for white-clawed crayfish	The Scoping Report does not explicitly seek to scope out white-clawed crayfish. The ES should include an assessment of impacts to white-clawed crayfish or provide information demonstrating the absence of any significant effect.

ID	Ref	Description	Inspectorate's comments
	2.4.3	Relevant statutory designations	The Scoping Report lists the Statutory Designated sites within 10km of the Proposed Development, noting that further designations are located up to 15km away and may fall within the scope of the air quality assessment. The Applicant's attention is drawn to the list of Sites of Special Scientific Interest in paragraph 6.3 of Natural England response (Appendix 2).
	6.4.2.1	Impacts on protected sites	The Scoping Report identifies potential impacts at 6.4.2. The Applicant is directed to the consultation response from Natural England in Appendix 2 on potential impacts on European / nationally designated sites.
	6.5.1.2	Sediment sampling	The Scoping Report states that generally contaminant levels are not of concern based on sampling data from 2017 from the Marine Management Organisation (MMO) around the intake and outfall heads within the River Trent. Dependent on the timing, footprint and nature of the works, further sediment sampling may be required closer to the commencement of the works and this should include for metal samples, Polyaromatic Hydrocarbons (PAHs) and Organochlorides. Effort should be

ID	Ref	Description	Inspectorate's comments
			made to agree an approach to sediment sampling with the MMO and any other relevant consultation bodies.
	6.13.2.1	Effects on habitats and species from water quality changes	<p>The Scoping Report states that accidental spillage of contaminants such as hydrocarbons and their subsequent release into the drainage system will be considered in the Water Environment and Flood Risk section of the ES.</p> <p>Temporary effects during construction and decommissioning and potential effects during operation to water quality, for example from spillages or discharges, should be considered in an assessment of this matter or otherwise demonstrate why significant effects are not likely to occur. Cross reference should be made to the assessment in the Surface Water, Flood Risk and Water Resources ES Chapter.</p>
	n/a	Piling	Where piling works are required, the ES should include details on the piling method to be used, information on the pile size, number of piles, expected installation duration and timing of the piling work. The ES should assess any potential impacts from piling on ecological receptors where significant effects are likely to occur.
	n/a	Confidential Annexes	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex

Inspectorate's comments		
ID	Ref	Description
		has been submitted to the Inspectorate and may be made available subject to request.



### 3.5 Water Environment and Flood Risk

(Scoping Report Section 6.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.5.2.2	Impacts to ponds	The Inspectorate is content to scope this matter out of the ES Water Environment chapter on the basis that any impacts to ponds will be addressed in the 'Biodiversity and Nature Conservation' and 'Geology, Hydrogeology and Land Contamination' chapters.
	6.5.1.3	Crowle Borrow Pits SSSI Hatfield Chase Ditches SSSI	It is stated that there does not appear to be any direct flow pathways between Crowle Borrow Pits SSSI and Hatfield Chase Ditches SSSI and the Proposed Development and that therefore they will not be considered further. The Inspectorate agrees that this matter may be scoped out on this basis.
	6.5.2.2	Decommissioning	See Table ID2.2.1.

ID	Ref	Description	Inspectorate's comments
	6.5.1.2	Study area - receptors	The distance of the identified waterbodies from the Site is generally not stated. It would aid understanding of the baseline if this information was included in the ES.
	6.5.1.2	Assessment – sediment mobilisation	In relation to contaminant concentrations found in sediment it is stated that PAH are the only substance group identified as of 'potential concern' (2017), based on River Trent sediment sampling data obtained from the MMO. It is explained that further interpretation of sediment sampling data will be presented in the PEI Report. The potential for construction and operational works to change sediment quality and mobilise

ID	Ref	Description	Inspectorate's comments
			sediments and give rise to impacts on sensitive receptors should be considered in the ES. This should include potential changes arising from vessel movements during construction, in the event that AIL are delivered on waterborne transport via the River Trent. The ES should include an assessment of the potential for significant effects.
	6.5.1.3	Study area - receptors	The River Trent, Humber Estuary Ramsar site, Special Area of Conservation (SAC) and SSSI are identified as receptors. The Humber Estuary Special Protection Area (SPA) is not mentioned although it is identified elsewhere in the Report as 9.1km downstream of the Site and connected to the Proposed Development via the River Trent. Consideration should also be given to the potential for impacts on the SPA arising from the River Trent acting as a hydrological pathway and the ES should include an assessment of significant effects where they are likely to occur.
	6.5.1.4	Baseline – flood risk	The Report states that the entire Site and surrounding environs (other than a small, slightly elevated area) is within Flood Zone 3 (FZ3). The description suggests that this refers to FZ3a (ie land with a High Probability of flooding), however it is not specified. The Inspectorate is aware that the EA Flood Map does not distinguish between FZ3a and 3b. As the Flood Risk Vulnerability Classification for development and need to apply particular tests (according to the Government's Flood risk and coastal change Planning Practice Guidance) differs according to the FZs in which a development is to be located, the description within the ES of the baseline flood risk for the Proposed Development should distinguish between FZs 3a and 3b.
	6.5.1.4	Baseline – flood risk	Para 6.5.1.4 states that historical data indicates that the Site is not at risk from groundwater flooding based on the geological



ID	Ref	Description	Inspectorate's comments
			<p>setting of the wider area encompassed by Keadby 1 and Keadby 2 Power Stations, but also that groundwater flooding is currently understood to be effectively managed via a well-developed drainage system serving these power stations. The latter statement appears to suggest that there is a risk of groundwater flooding. This should be clarified in the ES.</p>
	6.5.1.4	Assessment – cross-referencing	<p>The Inspectorate welcomes that a Flood Risk Assessment (FRA) and a Water Framework Directive (WFD) Assessment will be submitted with the DCO application. Cross-references from the ES to these documents should explicitly identify the location therein of information relevant to the assessment of impacts on the water environment. The Applicant is referred to the comments of the Environment Agency in relation to the design period used for the purposes of the FRA, the scenarios that should be considered and relevant flood models (Appendix 2 of this Opinion).</p>
	6.5.2.1	Assessment – potential impacts	<p>No reference is made in the Report to the relationship between the River Don and the Stainforth and Keadby Canal, which is fed by the Don. The Applicant is referred to the comments of the EA (Appendix 2 of this Opinion) in relation to potential changes in flow levels of the canal as a result of the Proposed Development and potential impacts arising from that. Neither does the Report reference the risk of flooding from the canal due to excess flows from the River Don. The ES should consider such impacts and include an assessment of significant effects where they are likely to occur and propose suitable mitigation.</p>
	6.5.2.2	Baseline – data provision	<p>It is stated that information from previous assessments at the Site will be used to confirm potential receptors and establish the baseline. No additional water quality sampling and analysis is proposed on the basis that existing, freely available data should</p>



ID	Ref	Description	Inspectorate's comments
			<p>be sufficient (although this will be kept under review). The Applicant should seek to agree this approach with relevant consultees and it should be justified in the ES. The Applicant should ensure that the baseline is sufficiently robust to allow the assessment of significant effects to be undertaken.</p>
	6.5.2.2	Assessment - effluent streams and discharges	<p>The ES should clearly describe the effluent streams and discharges to water associated with construction and operation of the Proposed Development and any permits required/implications for existing permits. Effort should be made to agree the scope and methodology of assessment work, including water quality modelling, with relevant consultation bodies. Evidence of discussions and any agreements reached should be provided within the ES.</p>
	6.5.2.1	Assessment - construction	<p>Should use be made of cofferdams in the Stainforth and Keadby Canal during construction of the proposed abstraction infrastructure the ES should consider potential impacts on water flow and provide an assessment where significant effects are likely to occur.</p>
	6.5.2.1	Assessment – waterborne transport	<p>Section 2.1 of the Report states that construction AIL may be delivered to the Site by waterborne transport via the River Trent, however no reference is made to this possibility in this aspect section. Should this be presented as an option in the DCO application the ES should consider any potential impacts and include an assessment of significant effects where they are likely to occur.</p>
	6.5.2.2	Consultation	<p>Anglian Water should be consulted in addition to the bodies highlighted within this section of the Report in relation to baseline data and the scope of the assessment.</p>

### 3.6 Geology, Hydrogeology and Land Contamination

(Scoping Report Section 6.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.6.2	Decommissioning	See ID2.2.1.

ID	Ref	Description	Inspectorate's comments
	6.6.1.4	Baseline information	It is stated that the location of the licensed and historical waste management facilities are shown on the figure contained in Appendix A1.6 of the Report. The facilities are not named on the figure, however those depicted do not appear to reflect the licensed facilities described in para 6.6.1.4, assuming those are the features referenced in the figure Legend as a 'Permitted Waste Site/Authorised Landfill Site'. Figures accompanying the ES should clearly identify relevant features and be consistent with those described in the main text, including using the same naming terminology.
	6.6.1.4	Receptors – contamination	The potential for land contamination to be present, owing to the Main Site's development history, is highlighted, together with the number of waste management facilities on the Site or within 250m of it. The River Trent, Humber Estuary Ramsar site, SAC and SSSI are identified as sensitive receptors that could be affected by groundwater providing a pathway for contamination. The Humber Estuary SPA is not mentioned although it is identified elsewhere in the Report as 9.1km downstream of the Site and connected to the Proposed Development via the River Trent. Consideration should also be given to the potential for contamination of the SPA through the River Trent and the ES



ID	Ref	Description	Inspectorate's comments
			should include an assessment of significant effects where they are likely to occur.
	6.6.2	Baseline – contaminated land survey	<p>The wording of this section suggests in relation to contaminated land that should the need for an intrusive site investigation be identified by the desk-based assessment, Technical Note and conceptual site model it would be undertaken post-DCO consent. the ES should contain a full description of any (post-consent) further intrusive investigation considered to be required and confirm how it is to be secured.</p> <p>It is welcomed that the requirements for any intrusive investigation will be discussed and agreed in advance with the EA and North Lincolnshire Council.</p>
	6.6.2	Mitigation	<p>Examples of mitigation measures that will be set out in the ES include the potential need for remediation of contaminated land. Proposed remediation measures should be clearly described in the ES for all relevant phases and it should set out the mechanism(s) by which these are secured. Cross-reference should be provided to relevant information on mitigation measures contained in other application documents such as, for example, the proposed framework Construction Environmental Management Plan, or a remediation strategy.</p>

### 3.7 Landscape and Visual Amenity

(Scoping Report Section 6.7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.7.2	Decommissioning	See ID2.2.1.

ID	Ref	Description	Inspectorate's comments
	6.7.2	Study area	<p>A 10km study area is proposed based, among other factors, on a stack height of approximately 90m. Should an alternative stack height be proposed following emissions modelling, consideration should be given to the appropriateness of the selected study area. The zone of theoretical visibility (ZTV) for the Proposed Development has not yet been produced and could also indicate that a different study area is required.</p> <p>The study area should be justified in the ES and efforts made to agree it with relevant consultees.</p>
	6.7.2	Methodology – viewpoints and photomontages	<p>It is stated that the assessment will be supported by figures, viewpoint photographs, wireframes and photomontages. It is stated that a maximum of 10 representative views will be identified within the ZTV for the main building envelope and the potential stacks and around the above ground installation for the natural gas and hydrogen connections; and a maximum of four 'accurate Visual Representations of the Proposed Development for agreed representative views'. Both winter and summer views should be included and the Applicant should also consider the potential for long-distance views.</p> <p>The Inspectorate acknowledges the Applicant's intention to agree representative views and photomontage locations with relevant</p>



ID	Ref	Description	Inspectorate's comments
			stakeholders, including for example the Canal and River Trust. Evidence of any agreement reached should be provided as part of the application documentation.
	6.7.2	Receptors	It is stated that recreational users of the River Trent and local waterways will be considered as sensitive visual receptors. This should include users of the Stainforth and Keadby Canal.
	6.7.2	Mitigation - lighting	The Report states that lighting required during the construction and operational stages of the Proposed Development would be designed to reduce unnecessary light spill outside of the site boundary, in accordance with a lighting strategy that will accompany the DCO application. The ES should consider the use of night-time visual representations. Consideration should also be given to requirements for aviation lighting on the stack(s) and assessment provided where significant effects are likely to occur.
	6.7.2	Mitigation - landscaping	In relation to mitigation measures ' <i>intrinsic within the Proposed Development</i> ' for landscape and visual effects, it is proposed to ' <i>substantially retain and manage existing established vegetation within the Site, as far as reasonably practicable, to aid the screening of low-level views into the Site</i> '. The extent to which this could be achieved should be set out in the ES and a worst-case scenario assumed. Additional mitigation should be identified, described in the ES and secured, in the event that significant effects are predicted to remain.
	6.7.2	Assessment - planting	It is stated that a detailed landscaping and biodiversity management strategy will be prepared to accompany the DCO application, however no reference is made to mitigation planting. If such planting is to be utilised the ES should clearly describe any proposed planting and how the landscape and visual effects

ID	Ref	Description	Inspectorate's comments
			are expected to alter as any such planting matures. The ES should clearly present any assumptions made about the height that the proposed planting would have reached by the assessment years for the purposes of generating visual representations and reaching the assessment conclusions.

### 3.8 Cultural Heritage

(Scoping Report Section 6.8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.8.2	Decommissioning	See ID2.2.1.

ID	Ref	Description	Inspectorate's comments
	6.8.1	Identification of receptors	It is stated that Appendix A1.4 depicts the location of both designated and non-designated heritage assets located within the Site and within 3km and 5km of it. However, the figure title refers only to designated assets and non-designated assets do not appear to be shown. The relevant ES figure(s) should identify both designated and non-designated heritage assets.
	6.8.2	Receptors	The Inspectorate considers that the study area for non-designated assets used for the assessment should encompass the (non-designated) Isle of Axholme area of Special Historic Landscape Interest.
	6.8.2	Surveys - archaeology	The Scoping Report states that a desk-based assessment will be undertaken and that further archaeological evaluation such as geophysical survey and/or trial trenching is not anticipated, but will be discussed and agreed with North Lincolnshire Council. Evidence of any agreement reached should be provided as part of the application documentation. Should the desk-based assessment identify the need for further investigation the Applicant should make every effort to agree the scope, methodology and timing of such activities with relevant consultation bodies. The results and assessment of effects to archaeology should be clearly presented within the ES along with



ID	Ref	Description	Inspectorate's comments
			<p>a description of any uncertainties or assumptions applied and confirmation of any further survey and evaluation required and how this would be secured. Where necessary, any intrusive investigations and trial trenching should be completed prior to submission of the DCO application. The Applicant is referred to the comments of Historic England in this regard (Appendix 2 of this Opinion).</p>



### 3.9 Socio-Economics

(Scoping Report Section 6.9)

ID Ref		Applicant's proposed matters to scope out	Inspectorate's comments
	6.9.2	Decommissioning effects	See ID2.2.1.

ID Ref		Description	Inspectorate's comments
	6.9.2	Scope of the assessment – impact of number of workers	<p>It is unclear from the Scoping Report what the anticipated maximum number of workers at the peak of construction is estimated to be.</p> <p>The impact on available temporary rented accommodation demand and affordability from the anticipated increase of workers during the construction and decommissioning phases should be considered in the assessment, particularly in respect of cumulative effects associated with other committed developments.</p>
	6.9.2	Scope of the assessment – Potential disruption on the local and strategic road networks and Public Rights of Way (PRoW)	<p>The Scoping Report does not explain how impacts on PRoW are to be considered as part of the socio-economic assessment methodology. The assessment should be supported by pedestrian/ user counts where necessary with effort made to agree the locations for such counts with relevant consultation bodies. The locations of any diversions or closures should be illustrated on suitable figures in the ES.</p>
	6.9.2	Significant effects criteria - professional judgement	<p>The Scoping Report states that significance for socio-economic effects will be assessed using the expert judgement of authors with professional experience in socio-economics.</p>

ID	Ref	Description	Inspectorate's comments
			Where professional judgement is used this should be clearly expanded upon in the ES and supported with evidence on how decisions have been reached.
	n/a	Crime and safety	No reference is made to crime and safety in the Scoping Report. The ES should set out whether the characteristics of the Proposed Development are likely to have any significant effects on crime and safety and provide justification if it is proposed to scope this matter out. The ES should explain how any required security measures are secured.

### 3.10 Climate Change

(Scoping Report Section 6.10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Table 8	Decommissioning	See ID2.2.1.
	Tables 9 & 10	Wind as a climate variable	The Applicant proposes to scope out wind as a climate variable in both the in-combination climate change impact assessment and the climate change resilience assessment, as the impacts of wind on receptors in the surrounding environment are likely to be no worse relative to baseline conditions. Provided these baseline conditions are evidenced and the data source is acknowledged, the Inspectorate is content to scope this matter out.

ID	Ref	Description	Inspectorate's comments
	Table 8	Greenhouse gas (GHG) lifecycle - assumptions	<p>The Scoping Report suggests that potential GHG emissions can be avoided due to the low carbon approach and the Proposed Development may have a beneficial impact on carbon intensity of power generation in the UK.</p> <p>There is no detail provided in the Scoping Report regarding the differences between the respective emissions profiles and overall carbon impacts of the two main fuel options (natural gas versus hydrogen firing). The Planning Inspectorate considers that such detailed information should be provided in the assessment to enable a comparative impact assessment.</p> <p>It should clearly set out the worst-case scenario for each use of fuel option (ie natural gas (with or without carbon capture), or hydrogen, and blending of natural gas and hydrogen).</p>



ID	Ref	Description	Inspectorate's comments
	6.10.2	Water resources	The assessment should consider water supply and how this will be impacted by future climate conditions and the Proposed Development, covering water availability for the construction, operation, and decommissioning stages. See comments from Anglian Water (Appendix 2) in this regard.
	n/a	Fugitive hydrogen emissions	The Scoping Report does not address the potential for fugitive emissions of hydrogen. Failure to minimise fugitive hydrogen emissions could significantly affect GHG emission savings that can be made by using hydrogen. The ES should consider this impact pathway and assess the risks accordingly.

### 3.11 Population and Human Health

(Scoping Report Section 6.11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.11.2	Health effects – Housing	The Scoping Report proposes to scope out housing as a population and human health determinant. Impacts to the availability of housing is required to be scoped into the socio-economics chapter of the ES. On this basis and given the nature and context of the Proposed Development, the Inspectorate is content for this determinant to be scoped out.
	6.11.2	Health effects – Radiation	The Scoping Report proposes to scope out health effects related to radiation for all phases of the Proposed Development but no justification is provided. The Proposed Development includes an electrical connection corridor to a 400kV substation or a new 132 kV connection. In line with relevant guidance (DECC Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice 2012), cables above 132kV have potential to cause electric and magnetic fields (EMF) effects. The Inspectorate is content that an assessment of cables/ substations up to and including 132kV can be scoped out further assessment. The ES should provide an assessment of any potentially significant effect on human health receptors arising from EMF from cables/ substations above 132kV. This should consider residential and recreational receptors. The ES should describe any necessary mitigation measures relevant to EMF (for example a minimum depth for cable burial) and explain how such measures are secured through the DCO or other legal mechanism.
	6.11.2	Health effects – Diet and nutrition, risk-taking behaviour,	The Inspectorate agrees that it is unlikely that the Proposed Development will give rise to any potentially significant effects

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		relocation, and community safety	on these determinants and agrees that these can be scoped out of the ES.
	6.11.2	Decommissioning effects	See ID2.2.1.1.

ID	Ref	Description	Inspectorate's comments
	6.11.2	Assessment of effects - professional judgement	<p>The Scoping Report states that where relevant standards do not exist, professional experience and expert judgement will be applied and justified in the assessment.</p> <p>Where professional judgement is used this should be clearly expanded upon in the ES and supported with evidence on how decisions have been reached.</p>
	n/a	Sensitive receptors	The Inspectorate advises that impacts on health and wellbeing and health inequalities of the Proposed Development may have impacts on vulnerable or sensitive populations, including those that fall within the list of protected characteristics. These receptors, if present, should therefore be included in the scope of assessment.



### 3.12 Materials and Waste Matters

(Scoping Report Section 6.12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Table 12	Waste arising from extraction, processing and manufacture of construction components and products	<p>The Report proposes to scope this matter out on the basis that the associated construction materials and products are being developed in a manufacturing environment with their own waste management plans, facilities, and supply chain.</p> <p>On this basis the Inspectorate agrees that this matter can be scoped out from the ES.</p>
	Table 12	Other environmental impacts associated with the management of waste eg, on water resources, air quality, noise or traffic	<p>The Applicant proposes to address other environmental impacts associated with the management of materials and waste to or from the Proposed Development in other relevant environmental aspect chapters of the ES. On this basis the Inspectorate is content to scope this matter out. Cross-references should however be made between aspect chapters where appropriate to ensure a comprehensive assessment.</p>
	Table 12	Changes to safeguarded mineral and waste sites	<p>The Scoping Report does not identify any allocated/ safeguarded mineral or waste sites present within the site boundary, as such, the Inspectorate is content to scope this matter out.</p>
	Table 12	Changes in availability of maintenance materials (operation)	<p>The Report proposes to scope this matter out on the basis that the forecasted effects, based on professional judgement, are considered to be negligible given the nature and scale of the Proposed Development. The Inspectorate agrees that changes in the availability of materials during the operation of the Proposed Development is unlikely to result in significant effects. This matter can be scoped out from the ES.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Table 12	Changes in availability of materials and available landfill capacity (decommissioning)	<p>The Applicant does not deem forecasting the availability of materials and landfill capacity an accurate reflection and states that it could be unreliable, noting the time periods involved. The Inspectorate agrees and on this basis is content to scope out a detailed quantitative assessment. The ES should however include an estimate of materials and waste produced by the Proposed Development in the decommissioning phase. The Inspectorate notes the commitment to a Decommissioning Environmental Management Plan which would consider in detail all potential environmental risks on the Proposed Development Site and contain guidance on how risks can be removed or mitigated.</p>



### 3.13 Major Accidents or Disasters Vulnerability

(Scoping Report Section 6.13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	6.13.2.1	Decommissioning	See ID2.2.1.
	6.13.2.1	Construction-related accidents; flooding; pollution to groundwater resources and contaminated land; accidental spillage of contaminants	These matters are not proposed to be considered in the assessment of major accidents and disaster vulnerability as they are suitably assessed (in other aspect chapters where relevant), regulated and controlled by other legislative frameworks. The Inspectorate agrees with this approach.

ID	Ref	Description	Inspectorate's comments
	6.13.2.2 Figure 1.1	Study area – consultation on major accident/hazard pipelines	<p>The Proposed Development Site is within the consultation zones of several major accident hazard pipelines. The Applicant should consult on potential significant effects relating to the Proposed Development with respect to these pipelines with the relevant consultation bodies and any mitigation that may be required.</p> <p>The Applicant's attention is directed to the advice of the Health and Safety Executive (HSE) and National Gas in their consultation responses in Appendix 2 of this Scoping Opinion.</p> <p>The HSE has identified potential hazard pipelines that should be considered.</p> <p>The Applicant should make use of appropriate guidance (eg, that referenced in the HSE's Annex to the Inspectorate's Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's vulnerability to potential major</p>



Inspectorate's comments		
ID	Ref	Description
		accidents and disasters. The HSE should be consulted in line with the Inspectorate's Advice Note 11, Annex G.

### 3.14 Cumulative and Combined Effects

(Scoping Report Section 6.14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	n/a	n/a	No matters have been proposed to be scoped out of the assessment

ID	Ref	Description	Inspectorate's comments
	Section 6.14	Study area	A 2km study area for Town and Country Planning Act developments and a 10km study area for NSIPs has been applied for the purposes of scoping. No study areas have been defined for the purposes of the assessment. The Inspectorate considers that other existing or approved development beyond this distance could give rise to cumulative effects on the same receptors. The ES must clearly state and justify the study area applied for each aspect. Effort should be made to agree the scope of the cumulative assessment with relevant consultation bodies.
	Section 6.14	Combined effects	The Scoping Report does not define the scope of any combined effects and lists just one example. The ES should be clear as to which combinations of effects it is assessing, and clearly justify the approach taken.
	Section 6.14 Table 15	Cumulative assessment - other developments	Consideration should be given to the inclusion of Lincolnshire Reservoir and Scunthorpe Electric Arc Furnace within the cumulative effects assessment. The Applicant's attention is drawn to the comments of Anglian Water and NE in this regard (Appendix 2 of this Opinion).

ID		Ref	Description	Inspectorate's comments
		n/a	Methodology	The Scoping Report does not include a methodology for assessing cumulative or combined effects. The Applicant's attention is drawn to the Inspectorate's Advice Note 17: Cumulative Effects Assessment, which sets out the recommended approach to such assessments. Any mitigation and/ or design measures relied upon to exclude likely significant effects should be explained in the ES and appropriately secured.



## APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

**TABLE A1: PRESCRIBED CONSULTATION BODIES<sup>1</sup>**

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Secretary of State for Defence	Ministry of Defence
The relevant parish council or, where the application relates to land in Wales or Scotland, the relevant community council	Belton Parish Council
	Crowle and Ealand Town Council
	Keadby with Althorpe Community Parish Council
	Eastoft Parish Council
	Amcotts Parish Council
	Gunness Parish Council
	Luddington and Haldenby Parish Council
	Burringham Parish Council
	Thorne Parish Council
	Hatfield Parish Council
	Swinefleet Parish Council
	Reedness Parish Council
	Goole Fields Parish Council
	Epworth Parish Council
	West Butterwick Parish Council
The Environment Agency	Environment Agency
Natural England	Natural England
The Forestry Commission	Forestry Commission - Yorkshire and North East

<sup>1</sup> Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (the 'APFP Regulations (as amended)')

<b>SCHEDULE 1 DESCRIPTION</b>	<b>ORGANISATION</b>
The Historic Buildings and Monuments Commission for England (known as Historic England)	Historic England
The Maritime and Coastguard Agency	Maritime & Coastguard Agency
The Maritime and Coastguard Agency - Regional Office	Maritime and Coastguard Agency - Humber
The relevant internal drainage board	Isle of Axholme and North Nottinghamshire Water Level Management Board
	Scunthorpe and Gainsborough Water Management Board
	Doncaster East Internal Drainage Board
	Ancholme Internal Drainage Board
	Goole Fields District Drainage Board
	Reedness and Swinefleet Internal Drainage Board
	Dempster Internal Drainage Board
	Black Drain Drainage Board
The Canal and River Trust	Canal and River Trust
The relevant Highways Authority	North Lincolnshire Council
	Lincolnshire County Council
	National Highways
The Civil Aviation Authority	Civil Aviation Authority
The Health and Safety Executive	Health and Safety Executive
United Kingdom Health Security Agency, an executive agency of the Department of Health and Social Care	United Kingdom Health Security Agency
NHS England	NHS England
The Crown Estate Commissioners	The Crown Estate

<b>SCHEDULE 1 DESCRIPTION</b>	<b>ORGANISATION</b>
The relevant police authority	Humberside Police and Crime Commissioner
The relevant fire and rescue authority	Humberside Fire and Rescue Service

**TABLE A2: RELEVANT STATUTORY UNDERTAKERS<sup>2</sup>**

<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
The relevant Integrated Care Board	NHS Humber and North Yorkshire Integrated Care Board
NHS England	NHS England
Railways	Network Rail Infrastructure Ltd - North and East
	National Highways Historical Railways Estate
Canal Or Inland Navigation Authorities	Canal and River Trust
	Associated British Ports
Dock and Harbour authority	Associated British Ports
	Port of Keadby
The Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	Environment Agency
The relevant water and sewage undertaker	Anglian Water
	Yorkshire Water

<sup>2</sup> 'Statutory Undertaker' is defined in the APFP Regulations (as amended) as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)



STATUTORY UNDERTAKER	ORGANISATION
	Severn Trent Water <sup>3</sup>
The relevant public gas transporter	Cadent Gas Limited
	Northern Gas Networks Limited
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
	CNG Services Ltd
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	GTC Pipelines Limited
	Harlaxton Gas Networks Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Last Mile Gas Ltd
	Leep Gas Networks Limited
	Mua Gas Limited
	Quadrant Pipelines Limited
	Squire Energy Limited

<sup>3</sup> Due to an administrative error, Severn Trent Water was not consulted on the Scoping Report, however it has been notified of the Applicant's contact details and its duty to make available information to the Applicant if requested under EIA Regulations 10 and 11.

STATUTORY UNDERTAKER	ORGANISATION
	National Gas
The relevant electricity generator with CPO Powers	Keadby Developments Limited
The relevant electricity distributor with CPO Powers	National Grid Electricity Distribution (East Midlands) Limited
	Northern Powergrid (Northeast) Limited
	Northern Powergrid (Yorkshire) plc
	Aidien Ltd
	Eclipse Power Network Limited
	Energy Assets Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Distribution Connection Specialists Ltd
	Independent Power Networks Limited
	Indigo Power Limited
	Last Mile Electricity Ltd
	Leep Electricity Networks Limited
	Mua Electricity Limited
	Optimal Power Networks Limited
	Squire Energy Metering Ltd
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited

STATUTORY UNDERTAKER	ORGANISATION
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc
	National Grid Electricity System Operation Limited

**TABLE A3: SECTION 43 LOCAL AUTHORITIES (FOR THE PURPOSES OF SECTION 42(1)(B))<sup>4</sup>**

LOCAL AUTHORITY <sup>5</sup>
Bassetlaw District Council
Doncaster Metropolitan Borough Council
East Riding of Yorkshire Council
Lincolnshire County Council
North East Lincolnshire Council
North Lincolnshire Council
Nottinghamshire County Council
West Lindsey District Council

**TABLE A4: THE MARINE MANAGEMENT ORGANISATION**

ORGANISATION
The Marine Management Organisation <sup>6</sup>

<sup>4</sup> Sections 43 and 42(B) of the PA2008

<sup>5</sup> As defined in Section 43(3) of the PA2008

<sup>6</sup> Due to an administrative error, the Marine Management Organisation was not consulted on the Scoping Report, however it has been notified of the Applicant's contact details and its duty to make available information to the Applicant if requested under EIA Regulations 10 and 11.



## APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:
Anglian Water
Associated British Ports
Canal and River Trust
CNG Services Ltd
Environment Agency
Historic England
Health and Safety Executive
Isle of Axholme and North Nottinghamshire Water Level Management Board
Ministry of Defence
National Gas
National Grid Electricity Distribution (East Midlands) Limited
National Highways
NATS En-Route Safeguarding
Natural England
Network Rail Infrastructure Ltd - North and East
North East Lincolnshire Council
United Kingdom Health Security Agency



**Anglian Water Services**  
Lancaster House, Lancaster Way,  
Ermine Business Park, Huntingdon,  
Cambridgeshire. PE29 6XU

By Email: Planning Inspectorate  
keadbyhydrogen@planninginspectorate.gov.uk

[www.anglianwater.co.uk](http://www.anglianwater.co.uk)

Our ref: KeadbyHydrogen/ ScopingResponse

29th May 2024

Dear Ms. Newman,

**Application by SSE Hydrogen Developments Limited (the Applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station Project (the Proposed Development) - Anglian Water EIA scoping consultation response.**

Thank you for the opportunity to comment on the EIA scoping report for above project, which is located within the North Lincolnshire Unitary Area. The project is one of a number of NSIP projects in the area which Anglian Water has been consulted on by the Planning Inspectorate.

Anglian Water is a water undertaker in the vicinity of the area. The following response is submitted by Anglian Water, in its statutory capacity relating to potable water and water resources assets along with any wastewater and water recycling assets, where applicable.

### **The Scheme – Anglian Water Existing Infrastructure**

The proposed site parameters appear to be located outside of the Anglian Water company area, although the proposed locations for water abstraction and discharge area are located within the vicinity of our water supply boundary.

Anglian Water works to support the construction and operation of national infrastructure projects that are conducted in accordance with the Water Industry Act 1991. We would expect the Environmental Statement would include reference to any existing infrastructure managed by Anglian Water and the provision of replacement infrastructure and the requirements for new infrastructure.

Anglian Water works with developers, including those constructing projects under the 2008 Planning Act, to ensure any requests for alteration to sewers, wastewater and water supply infrastructure are planned to be undertaken with the minimum of disruption to the project and customers.

Given the location and likely extent of the proposed development area, there could be existing Anglian Water assets both above and below ground, which serve the surrounding businesses and community.

Utilities searches should, therefore, be undertaken to establish the extent of any of Anglian Water's assets within the scheme's application boundary. These should be mapped to establish interactions with assets and the scheme designed to avoid impacts upon those assets. Anglian Water would want to ensure the location and nature of these assets is identified and protected. To reduce the need for diversions and the attendant carbon impacts of those works, ground investigation would enable the promoter to design out these potential impacts and so also reduce the potential impact on services if construction works cause a pipe burst or damage to all supporting infrastructure.

Maps of Anglian Water's underground assets are available to view at the following link: <http://www.digdat.co.uk/>

For further information on the aboveground assets, you should contact Anglian Water's estates team on: [awsestates@savills.com](mailto:awsestates@savills.com)

Anglian Water's preference is to work with the applicant during the pre-application phase to reach agreement on design changes, mitigation and protection measures in the application prior to submission. This ensures that work to divert existing assets is minimised, reducing project costs and the carbon costs of the project. We would welcome on-going engagement to ensure that Anglian Water and the project have reached agreement on the approach to assets and connections in order that these matters are not drawn out during the Examination.

### **Scheme assessment, design, mitigation and connections**

#### **Water supply**

Section 6.5 'Water Environment and Flood Risk' of the scoping report, covers the potential range of water environment and flood risk impacts for the construction, operation and de-commissioning stages of the proposed development to be undertaken as part of the Environmental Statement. Reference is made to water abstraction and discharge forming part of the proposals including from the River Trent. Anglian Water abstracts water from the River Trent to provide potable (clean) water to our customers.

As set out above, there are several other infrastructure projects in the area with potentially cumulative and combined impacts for demand for water resources. Table 15 under Section 6.14 'Cumulative and Combined Effects' lists a number of relevant projects up to 10 km from the proposed development site, but it is noted that the Fens Reservoir project (near Sleaford) is not included. Whilst this project is located some distance away, it is of potential relevance. This is also a NSIP project due to be submitted to the Planning Inspectorate under the DCO consenting regime. [Lincolnshire Reservoir - Project information \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/projects/lincolnshire-reservoir/)

The Lincolnshire Reservoir is a 55 MCM raw water storage reservoir, with a usable volume of 50 MCM. There are three possible sources being assessed for the reservoir the River Trent, River Witham, South Forty Foot Drain. It is proposed to transfer, either by pipeline or open channel transfer from the River Trent to the River Witham at times when it is not possible to abstract from the Witham itself. Further details are available on the reservoir project within Anglian Water's draft Water Resources Management Plan [Water resources management plan \(anglianwater.co.uk\)](https://www.anglianwater.co.uk/water-resources-management-plan/)



Anglian Water does not consider that sufficient information has been provided to reach a conclusion on the project impacts regarding water supply. Impacts of climate change in terms of water availability for the construction, operation and decommissioning stages is also of relevance. There is a need, therefore, to further establish and set out in more detail how the project will be supplied with water and if connections to any networks are required. Also, how water assets serving residents and business will be protected and how the design has been altered to reduce the need for new water infrastructure or the diversion of existing assets. Anglian Water requests that these points are covered in the EIA.

Anglian Water now advise that new non-household water supply requests (construction and operational phases) may be declined as these could compromise our regulatory priority of supplying existing and planned domestic growth. The flows needed to fill water storage tanks for example (if rainwater harvesting on site is not used to meet non-potable demand) will need to be assessed by Anglian Water to advise whether a supply is feasible, when assessed in terms of the potential to jeopardise domestic supply or at a significant financial or environmental cost.

Our new position on non-household supply is due to our joint aim with the Environment Agency of reducing abstraction to protect sensitive environments. To support appropriate water resource planning, Anglian Water now requires that significant new non-domestic water demands be set out in a Water Resources Assessment (WRA). For applications under the 2008 Act the WRA (or its summary) should form part of the EIA sufficient to enable regulators including the Environment Agency to advise the Examining Authority and the Secretary of State that the supply of water to the project is deliverable and sustainable. A WRA would include setting out a daily demand for each stage of the project and whether this is for domestic or non-domestic uses.

Further advice on water capacity and options can be obtained by contacting Anglian Water's Pre-Development Team at: [planningliaison@anglianwater.co.uk](mailto:planningliaison@anglianwater.co.uk)

#### Foul Sewage and Surface Water Drainage

The site is located outside of our statutory sewerage area and is served by Severn Trent Water. As such we would expect Severn Trent Water as the incumbent sewerage undertaker to be consulted further in relation to any requirements for foul and surface water connection(s) to the public sewerage network.

#### Construction Environment Management Plan (CEMP)

We welcome the intention (Section 3.6. 'Construction Programme and Management') to produce a CEMP. This should include steps to remove the risk of damage to Anglian Water assets from plant and machinery (compaction and vibration during the construction phase) including any haul and access roads and crossings. Further advice on minimising and then relocating (where feasible) Anglian Water existing assets can be obtained from: [connections@anglianwater.co.uk](mailto:connections@anglianwater.co.uk)

## **Engagement, the draft DCO Order and assisting the applicant**

We note that at Section 8.1. 'EIA Methodology and Reporting of the Scoping Report', the project plans to engage with several consultees. We would consider that Anglian Water should be included on the list of consultees to be drawn up by the applicant to follow their proposed approach to assessment and consultation.

Anglian Water would welcome the instigation of discussions with SSE Thermal and Equinor prior to the project layout and initial design and to assist the applicant before the submission of the Draft DCO for examination. We would recommend discussion on the following issues:

1. Impact of development on Anglian Water's assets and the need for mitigation.
2. The design of the project to minimise interaction with Anglian Water assets/critical infrastructure and specifically to avoid the need for mitigation works and diversions which have associated carbon costs.
3. Requirements for any water supplies (potable and raw water).
4. Pre-construction surveys.
5. Draft Protective Provisions.

Advice on the form and content of suitable Protective Provisions in the draft Development Consent Order should be sought. Please do not hesitate to contact Carry Murphy [REDACTED] [\[REDACTED\]@angliawater.co.uk](mailto:[REDACTED]@angliawater.co.uk) on these aspects or should you require clarification on the above response or during the pre- application to decision stages of the project.

Yours sincerely,



Phil Jones  
Growth Strategy Manager – Sustainable Growth

c.c. Richard Royal, Stakeholder Manager, Equinor: [REDACTED] [\[REDACTED\]@equinor.com](mailto:[REDACTED]@equinor.com)  
Jade Fernandez, Stakeholder Manager, SSE Thermal: [REDACTED] [\[REDACTED\]@sse.com](mailto:[REDACTED]@sse.com)

W.14a.20-24 DB/BB

**Ian Wallis**  
EIA Advisor  
Environmental Services  
Operations Directorate  
The Planning Inspectorate  
T 0303 444 5000

17<sup>th</sup> May 2024

Dear Sir / Madam,

As per previous correspondence from the consultations; ABP are pleased the intake method remains within the canal.

As per our previous responses, in the absence of detailed plans, we cannot fully assess the risk the cofferdam will have on commercial operations and therefore cannot agree with the proposal.

We are therefore advising that any construction required in this area does not encroach any more into the river than existing infrastructure, this should limit the risk of any unforeseen consequences.

Yours sincerely



**Capt. A Firman**  
Harbour Master, Humber







**Canal &  
River Trust**

Making life better by water

Your Ref EN0110001

Our Ref IPP-229

Wednesday 22 May 2024

BY EMAIL ONLY [keadbyhydrogen@planninginspectorate.gov.uk](mailto:keadbyhydrogen@planninginspectorate.gov.uk)

EN0110001 Keadby Hydrogen Power Station Project - EIA Scoping Notification, Comments for the Canal & River Trust

Thank you for your consultation on the Environmental Impact Assessment Scoping report, which relates to the above project.

The Canal & River Trust are the charity who look after and bring to life 2000 miles of canals & rivers. Our waterways contribute to the health and wellbeing of local communities and economies, creating attractive and connected places to live, work, volunteer and spend leisure time. These historic, natural and cultural assets form part of the strategic and local green-blue infrastructure network, linking urban and rural communities as well as habitats. By caring for our waterways and promoting their use we believe we can improve the wellbeing of our nation.

The Trust Navigation Authority and Landowner of the Stainforth & Keadby Canal, to the south of the application site.

The red line boundary of the project extends up to and includes part of the Stainforth & Keadby Canal. We understand that this relates to proposals to abstract water from the canal. To the south east, we note that it is proposed to utilise an existing mooring location on the River Trent to the north of Keadby Lock. Whilst the Trust is not Navigation Authority for the River Trent in this location, we do manage Keadby Lock, which has the potential to be impacted moorings in this location.

Having reviewed the Scoping Document, we wish to raise the following comments.

### 6.3 Traffic & Transport

#### Location of Railway Wharf

We note that section 6.3.1.8 highlights that "Consideration to using the canal will be given for the delivery of plant during construction, where reasonably practicable, and an indicative waterborne transport off-loading area is included in the indicative Order Limits". Having reviewed the Order Limits, we believe that this refers to the wharf north of Keadby Lock, which is not on the Stainforth & Keadby Canal, but the River Trent. This would also correspond with the location used for offloading associated with the Keadby 2 project. As a result, this section of the scoping report may need to be re-worded to avoid confusion.

#### **Canal & River Trust**

Fradley Junction, Alrewas, Burton-upon-Trent, Staffordshire DE13 7DN

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The canal itself is identified by the Trust as being capable of accommodating freight traffic. Should the proposals be amended to consider use of the canal itself, then we would welcome discussion with the applicant as to how this will be accommodated.

### Potential Implications for the Use of Keadby Lock

The offloading area to the immediate north of Keadby Lock, and the arrival of larger vessels for AIL deliveries could require the closure of Keadby Lock. Vessels seeking to utilise the lock need to pre-book slots for assisted passage.

We consider that implications of the use of Railway Wharf upon the operation of Keadby Lock should be considered within the Environmental Statement. Previously, for the Keadby 2 project, it was agreed with the applicant that Notices to Mariners (Notices and Stoppages) through the Trust can be used to provide mariners with forewarning of closures.

During the development of Keadby 2, it was observed that some vessels arrived at the offloading point outside of times agreed by the Trust, often due to delays occurring at sea. This resulted in unscheduled closures of Keadby Lock, which prevented craft utilising this structure. Unscheduled closures of the lock can result in boats becoming stranded, which could have health and safety implications should they become stranded on the River Trent, which is a tidal river.

**We request that this matter should be assessed alongside the assessment of the application, including the identification of mitigation measures to limit the impact of the works on Keadby Lock.** We note that 6.3.2 (Scope of the Assessment) does not specifically include this at present, and suggest that the impact on Keadby Lock should be included to help inform the application.

For the Keadby 3 Carbon Capture Power Station Project, the Development Consent Order was subject to a requirement for the provision of a Wharf Management Plan under Schedule 2, Article 25 to include “processes for agreeing in advance the general principles around scheduling of abnormal load deliveries that would temporarily obstruct the entrance to Keadby Lock and notifying the Canal and River Trust as to the timing of such deliveries, and measures that seek to avoid such deliveries occurring outside of the notified timings”. We consider that a similar approach could be used to address this risk in this latest application.

The Trust’s position is that the aim of the Wharf Management Plan should be to prevent all arrivals outside of scheduled times. The Trust accept that in a very limited number of cases that may be unavoidable and would welcome any plan also including detail of the procedures to be followed in those instances.

## **6.4 Biodiversity and Nature Conservation**

The Trust take no specific issue with the section of the scoping report relating to potential impacts on sites, habitats and species, and the associated desk-based studies highlighted in table 5.

Mitigation procedures may rely on matters referred to in the framework CEMP and future landscaping proposals. This would be especially pertinent to works proposed next to the canal. We would wish to comment on the framework CEMP and soft landscape proposals when these are available, as these could have a significant impact on the effectiveness of any mitigation regime.

## **6.5 Water Environment and Flood Risk**

### Flood Risk

Section 6.5.1.4 does not specifically address risks of flooding from the Stainforth & Keadby Canal. This waterway is fed water from the River Don, and excess flows could enter the canal and result in an increased risk of flooding

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downstream. Unlike canals fed by reservoirs and sluices, the Trust has less control over the water levels in the canal.

We consider that the further desk-based assessment identified in this section should include consideration of the potential flood risk from the navigation. This could include level checks and a full assessment made of existing flood protection along the canal.

#### Impact on Water Flows During Construction

6.5.2.1 identifies that temporary changes to the flows and water levels of watercourses could occur during the construction phase of the development. We wish to highlight that the use of coffer dams in the Stainforth & Keadby Canal to facilitate the construction of abstraction equipment may affect water flows, and the impact may require some assessment.

#### Abstraction

6.5.2.2 confirms that the scope of the assessment will include a review of the abstraction licences, available abstraction headroom and the impact on species from the abstraction. The Trust take no issue with this approach.

The Trust has been in discussion with the promoter on the abstraction works. A revised abstraction license would likely be required for the abstraction sought. We understand an existing abstraction licence is in place to allow for the Keadby 3 project (as a variation to an existing licence for the Keadby 2 project). On the presumption that the Keadby Hydrogen project substitutes the Keadby 3 project (and only one of the two projects is progressed), we understand from discussions that no additional water abstraction would be required beyond what is required for the Keadby 3 project. As a result, appropriate water resources are likely to be available.

Please note that offsite canal improvement works may be required to provide appropriate water supply. Works to Keadby Lock are referred to in paragraph 6.8.1.

### **6.6 Geology, Hydrogeology and Land Contamination**

The Trust take no issue with the approach identified in section 6.6.2, and note that the impact on controlled waters is referenced. We request that the report and technical note should include reference to the impact of controlled waters concerning the Stainforth & Keadby Canal.

### **6.7 Landscape and Visual Amenity**

The most significant impact on visual amenity for the Stainforth & Keadby Canal would concern impacts to the north of the waterway where the proposed abstraction equipment would be sited. This would be due to interventions including the removal of vegetation and permanent installation of abstraction plant and associated fencing. This location would also be closest to long distance views towards the new power station complex from the canal. We consider that the LVIA should include an assessment of the impacts utilising a viewpoint assessment from the towpath in this location looking north.

With regards to the scope of assessment referred to in 6.7.2, we request that the Stainforth & Keadby Canal should be considered as a sensitive visual receptor, upon which the potential impacts will be judged.

We note that page 91 refers to sensitive visual receptors including recreational users of the River Trent and local waterways. To avoid confusion, we request that the waterways highlighted should include the Stainforth & Keadby Canal, and would suggest that reference to this is included in the scoping report.

#### **Canal & River Trust**

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## 6.8 Cultural Heritage

Keadby Lock forms a scheduled monument within proximity to the boundary of the site. We consider that the scope of the assessment should include an assessment of impacts on the setting of this asset. We understand from the text of 6.8.2 that this will be included.

Direct interventions to the lock are required to allow for the water abstraction. Although works have approval, it may assist the application if the assessment includes direct commentary on the impact of these works, as they are linked to the wider application.

### Other Comments

Proposals that include works in close proximity to the Trust's waterways would likely be required to comply with the Trust's 'Code of Practice for Works affecting the Canal & River Trust'; which could apply if the scheme is amended to incorporate land incorporating/close to Trust assets. The applicant/developer is advised to contact the Canal & River Trust's Works Engineering Team via switchboard on 0303 040 4040 should they have any questions or require further information upon the Code.

The Trust is a statutory undertaker which has specific duties to protect the waterways. Accordingly, we have a duty to resist the use of compulsory purchase powers which may negatively affect our land or undertakings. The Trust is willing to engage with the Promoter to enter into an agreement in respect of the rights which the Promoter requires to deliver the works, and would welcome further engagement on this matter as the application progresses. Protective provisions within the DCO may be required to address this.

Yours Sincerely

Simon Tucker MRTPI  
Area Planner

[REDACTED]@canalrivertrust.org.uk  
[REDACTED]

<https://canalrivertrust.org.uk/specialist-teams/planning-and-design>

### Canal & River Trust

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**From:** [REDACTED]  
**To:** [Keadby Hydrogen](#)  
**Cc:** [info](#)  
**Subject:** FW: EN0110001 – Keadby Hydrogen – EIA Scoping Notification and Consultation  
**Date:** 13 May 2024 07:05:34  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image008.png](#)  
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[image006.png](#)  
[image007.png](#)  
[image009.jpg](#)  
[image012.jpg](#)  
[image013.png](#)  
[KDBH – Statutory consultation letter.pdf](#)

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You don't often get email from [REDACTED]

Dear Ian

Thank you for your e-mail.

CNG Services Ltd believes that it is not a consultation body for this project as defined in the EIA Regulations.

Kind regards

Colin

**Colin Brewster**  
**Business Development Director**  
**Email:** [REDACTED][@cngservices.co.uk](mailto:[REDACTED]@cngservices.co.uk)  
**Phone:** [REDACTED]  
<https://www.cngservices.co.uk/>



ENGINEERING NET ZERO THROUGH RENEWABLE GASES



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**From:** Keadby Hydrogen <[KeadbyHydrogen@planninginspectorate.gov.uk](mailto:KeadbyHydrogen@planninginspectorate.gov.uk)>

Stephanie Newman  
Planning Inspectorate  
3/20 Eagle Wing  
Temple Quay House (2 The Square) Temple Quay  
Bristol  
Avon  
BS1 6PN

**Our ref:** XA/2024/100086/01-L01  
**Your ref:** EN0110001

**Date:** 24 May 2024

Dear Stephanie Newman

**SCOPING OPINION CONSULTATION KEADBY POWER STATION, TRENTSIDE, KEADBY DN17 3EF**

Thank you for consulting the Environment Agency on the Environmental Impact Assessment (EIA) Scoping Opinion for the proposed development.

We have reviewed the “The Keadby Hydrogen Power Station Project Environment Impact Assessment Scoping Report” (dated 30 April 2024, ref.KH-ARUP-XX-XX-RP-OP-000001). We were consulted by the Planning Inspectorate on 01 May 2024.

**Decommissioning**

Section 7.9 states that the assessment of decommissioning effects will be scoped out for all topics. We disagree, as the following topics within our remit must be scoped in:

- Biodiversity and Nature Conservation (Section 6.4)
- Water Environment and Flood Risk (Section 6.5)
- Geology, Hydrogeology and Land Contamination (Section 6.6)
- Climate Change (Section 6.10)

We note that the potential impacts on the above during the decommissioning phase for the above topics “*will not be separately assessed*”, as they are “*likely to be similar to, or no worse than the effects from construction*”. We also note that a Decommissioning Environmental Management Plan (DEMP) will be produced (Section 3.7).

We require decommissioning effects to be scoped in, to ensure the principles for avoiding decommissioning impacts to issues within our remit are identified. These principles can then be given more detail in the DEMP.

**Direct Cooling**



For the purposes of the EIA assessment there needs to be consideration of alternatives. This includes, hybrid cooling, cooling towers and indirect cooling. We strongly recommend that you parallel track discussion with our permitting team on BAT (Best Available Techniques). We note that you wish to peruse 2x options for water take via the Cannal and River – the impacts on both areas will need to be presented.

Depending on the options taken as a result of the receiving environment – there may be a need for an adaptive approach, which will require additional land in order to implement this adaptive approach, or restrictions on the operations of the station lifetime.

Development proposals need to be in line with best practice.

There is also the need to assess reasonable worst-case scenario. This needs to be incorporated into the EIA process. We welcome discussion on the scope of this work.

### **Flood risk**

The site lies mostly within Flood Zone 3 (fluvial and tidal), and is therefore considered to be at high risk of flooding. We will therefore expect the application to be supported by a detailed site-specific flood risk assessment (FRA).

We note that the site is proposed to operate for a period of 25 years (Section 3.7). For the FRA's purpose, a design period of 75 years should be used to assess the potential impacts of climate change and to inform relevant flood mitigation measures. Flood risk will need to consider the following scenarios:

- breach
- overtopping
- climate change scenarios

The decommissioning phase needs to be scoped in for Water Environment and Flood Risk. Section 6.5.2.1 states *“impacts on the water environment and flood risk, as a result of decommissioning...will not be separately assessed...on the bases the effects of decommissioning are likely to be similar to or no worse than the effects from construction”* The level of flood risk to the development will increase over its lifetime; therefore there will need to be consideration of this within the FRA, to ensure decommissioning works do not increase flood risk on site or elsewhere.

The FRA should include suitable flood risk mitigation measures, considering the safety of the site users. The occupation and operation of the site will need to be confirmed, in order to establish necessary on-site refuge and safe evacuation of the site in the event of a flood event.

We would encourage early discussion with the Environment Agency in terms of the scope and requirements of the FRA, as well as availability and requirements for flood modelling and climate change assessments.

The North Lincolnshire Strategic Flood Risk Assessment (SFRA) should be reviewed, with particular attention to the Critical Flood Level which has been established for the Isle of Axeholme.

#### Flood modelling

Please note for Section 6.5.1.4, the latest hydraulic model for the Tidal Trent was undertaken by Jacobs in 2023. This should form a good basis for informing the Flood Risk Assessment (FRA). It is appreciated that separate modelling may have already been developed for this site, which may be appropriate to use if it uses the most up to date information, or it can be demonstrated that it is conservative with respect to the Tidal Trent (Jacobs, 2023) modelling.

With regards to the Tidal Trent (Jacobs, 2023) modelling, this is a Flood Modeller-TUFLOW model which adopts a 25 meter 2d grid resolution. Downstream boundary conditions are informed by the Humber Extreme Water Levels (HEWL) modelling (Jacobs, 2021). Breach modelling was undertaken as part of this project. The closest breach to the proposed development site is 03\_Keadby north. Please note, the H++ scenario for sea level rise was not simulated as part of this modelling so this would need to be undertaken to inform the Flood Risk Assessment. The HEWL (Jacobs, 2021) modelling did consider a H++ scenario, and in theory this could be used to update the downstream boundary conditions for the Tidal Trent (Jacobs, 2023) model, so that the H++ scenario can be run.

In terms of the North and South Soak Drains and Three Rivers, this was modelled in 2017 by Capita AECOM. For the most part, the proposed site is outside of the defended modelled flood extents from the Capital AECOM (2017) modelling of the North and South Soak Drains and Three Rivers. It is however important to note that this modelling uses older UKCP09 climate change uplift estimates.

We do not hold any detailed hydraulic modelling data for the Keadby Boundary Drain or Eastoft Moors Drain. The highest flood levels at the proposed site location are driven by the Tidal Trent, particularly in a scenario where the Trent embankments breach. Whilst any proposed development platform is likely to be well above any flood levels for the Keadby Boundary Drain, Eastoft Moors Drain, Three Rivers, and North and South Soak Drains, it is important to demonstrate that the proposed development will not have an adverse effect on flood risk for these watercourses.

When using Environment Agency modelling for Flood Risk Assessments, please check that the modelling is suitable for your needs, in line with guidance on using modelling for Flood Risk Assessments, which is available online here: [Using modelling for flood risk assessments - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/using-modelling-for-flood-risk-assessments)

Hydraulic modelling information for the Tidal Trent, Three Rivers, and North and South Soak Drains can be requested via [dnlenquiries@environment-agency.gov.uk](mailto:dnlenquiries@environment-agency.gov.uk)

#### **Fisheries, Biodiversity and Geomorphology**

The impacts of decommissioning need to be scoped in for Biodiversity and Nature conservation. Section 6.4.2 states that *“impacts on the biodiversity and nature conservation as a result of decommissioning...will not be separately assessed...on the basis the effects of decommissioning are likely to be similar to or no worse than the effects from construction”*. We note that section 3.7 states that a Decommissioning plan would be produced and agreed with us as part of Environmental permitting and the site surrender process. Habitats/species will have changed by the time of the development’s decommissioning, so new baseline surveys will be required to ensure damage is avoided, and enhancements can be made.

Our Screening of the development site brought up the following designations:

- Humber Estuary SAC, Ramsar and SSSI
- Crowle Borrow Pits SSSI

Our screening of the development site brought up the following protected habitats:

- Coastal saltmarsh
- Deciduous woodland
- Mudflats

There is extensive range of species within the River Trent, including the following protected species:

- Atlantic salmon
- Allis shad
- European eel
- River lamprey
- Smelt
- Twaite shad
- European water vole

The timing of works to rivers will need to consider the effects on migratory fish, such as Salmon and Sea Trout, to avoid disruption during migratory periods.

Any abstraction will need to ensure that best practice is adopted. This will include a fish screen with fine aperture installed to protect small eels (under the Eel Regulations 2009). The inlet structure arrangement will determine some of the specifics, such as the approach velocities required.

Other impacts on fish species will need to be taken into account, including changes to:

- Water chemistry - including any discharges
- Nutrients
- Temperature - including thermal plume from discharges
- Aquatic vegetation
- Salination
- Physical barriers – entrapments
  - smothering



- other anthropogenic disturbances

Up-to-date surveys for Water Voles will be required. We note extensive populations are present in the drainage ditches surrounding the proposed development. The EIA should include an understanding of the water vole population, and a mitigation strategy to ensure the wider water vole population is not fragmented by the development.

We expect to see a reptile and amphibian method statement – outlining reasonable avoidance measures to safeguard reptiles and amphibians that could come onto site.

We expect to see a Biosecurity plan in the Environmental Statement, and the Construction Environment Management Plan (CEMP).

We will be interested in Biodiversity Net Gain (BNG) baselines and proposals for watercourses, ditches and any other wet habitat on site. Including TraC waterbodies (transitional). For a strategic approach to BNG, we encourage the applicant to research:

- Local Nature Recovery Strategies
- River Basin Management Plans
- Catchment Plans
- Climate resilience
- Water Framework Directive objectives for strategic approach to BNG.

Our approach to Biodiversity and Nature conservation is supported by the following:

- Paragraphs 180 – 188 of the [National Planning Policy Framework](#) (NPPF): recognize that the planning system should conserve and enhance the natural environment.
- EN-1 Overarching National Policy Statement for Energy, Section 4.6 Environmental and Biodiversity Net Gain.

The [Planning Practice Guidance](#) (PPG) provides guidance on the application of net gain. The CIEEM, together with CIRIA and the IEMA, have published guidance on how to deliver net gain in practice. These can be downloaded [here](#).

### Geomorphology

The following comments should be used as guiding principles to consider, when designing water crossings, to avoid negatively impacting the geomorphology and interference of natural processes.

Ensure watercourse crossing design is informed by assessment of fluvial processes and geomorphology. For example, depth of HDD crossing should consider the likelihood of vertical channel change.

Any decommissioning works should ensure that there are no alterations to the geomorphology of the river. For example, infrastructure such as access tunnels, which are left in-situ after decommissioning, could be exposed by future river movement, becoming an impediment to natural processes.

We further advise to utilise opportunities to deliver WFD mitigation measures as part of the design. Design should ensure mitigation measures can be delivered. For example, cables should not be brought to surface level in floodplains earmarked for future river restoration.

### **Water Quality**

We understand that the current design stage of the project does not allow detailed information on the likely impacts of the development to be presented. However, we would like to share the following aspects, which were not detailed, but we believe should be incorporated into the assessment on water quality impacts within the Preliminary Environmental Impact Report (PEIR):

- Impacts from construction run-off and/or any construction related trade discharges. Mitigation for these impacts is typically included within a CEMP. We note that the water environment is currently not included in the list of the contents of the CEMP provided in Section 3.6.
- The impact of sewage discharges, during construction and operation, and how they will be mitigated. This could include the installation of a new sewage treatment plant or disposal to foul sewer. If the latter is the case, we would wish to see assurances from Severn Trent Water that the development will not cause significant impacts elsewhere within the sewer network.
- Discharges from the water treatment plant and wastewater treatment plant described in section 3.3.
- Discharges of site drainage during operation, including potential risks from substances being stored onsite and firewater.

It is likely that some, or all, of the activities listed above will require an environmental permit. Environmental permits are a key piece of mitigation, and it would therefore be positive to have a clear description of activities that require a permit within the PEIR. Applications for environmental permits can pose a significant risk to projects of this nature, due to the timeframes to determination and the possibility that applications are not duly made. To minimise these risks, we would like to encourage the applicant to engage with our permitting pre-application advice service at the earliest opportunity. They will be able to help ensure quality applications are submitted correctly in the first instance. They can also advise on the assessment methodology required for any of the potential discharges from the site.

We would like to flag a few key details we feel were missed in the surface water bodies baseline conditions in Section 6.5.1.2. The North Soak Drain Catchment and the Torne/Three Rivers from Mother Drain to Trent Catchment, are also unable to meet Good ecological status because phosphate has been categorised as Moderate. The Southwestern most aspects of the site are within the Hatfield Waste Drain catchment.

### **Water Resources**

The water requirements of the proposal have not yet been defined explicitly at this stage. However, we are pleased to see that operational water requirements (cooling) have been considered, along with alternative options, and welcome the early pre-application engagement undertaken with the CRT and the EA to date.

The decommissioning phase, and its impacts on water resources, needs to be scoped in. We will need to understand the water resources required for decommissioning works, and request that details are included in the water resource strategy.

The source of supply for the Stainforth and Keadby canal (Sheffield and South Yorkshire navigation) is the River Don. Any changes to the use of existing abstraction licenses, increased uptake, or applications for new abstraction, will need to consider the relationship between increased supply to the canal to maintain flow, or levels required for navigation, fish passage or freshening flows, and consider the potential for effective mitigations for these. We would like to see these impacts and risks scoped in, and covered in the water resources sections of the Environmental statement.

We would also like to see more details of proposed uses of water and potential sources of supply, which the scoping report does not include.

With the exception of potable/domestic use from public water supply identified in the project description, there are no consumptive uses of water identified in the scoping report for the construction and decommissioning phases of the proposal. We are aware that licenses currently exist which Keadby power station owns or operates, providing access to water for operational purposes which include process water, boiler feed and cooling. Projects of this size and scale have a significant water demand in the construction phase of the development. We would like to see the scoping include water requirements, which may also include dust suppression, machine washing, materials production (e.g. concrete) or any other consumptive uses of water.

The scoping report does not include details of dewatering required for construction. If dewatering is required, the impact to groundwater resources, dependent surface water features and other lawful users, will need to be evaluated and it will require an abstraction licence if it doesn't meet the criteria for exemption in [\*The Water Abstraction and Impounding \(Exemptions\) Regulations 2017 Section 5: Small scale dewatering in the course of building or engineering works\*](#). It may also require a discharge permit if it falls outside of our [\*regulatory position statement for de-watering discharges\*](#).

Consumptive abstraction from Groundwater may not be available, more details can be found in the [\*Abstraction Licensing Strategy\*](#) for the catchment. If the dewatering activity can be demonstrated to be discharged to the same source of supply without intervening use (i.e. non-consumptive), this will increase the likelihood of a licence being granted.

### **Groundwater and Contaminated Land**

We provide the following comments in relation to the protection of controlled waters. We have reviewed 6.5 Water Environment and Flood Risk 6.6. Geology, Hydrogeology and Land Contamination.

The site is underlain by superficial deposits consisting of Alluvium and Warp Deposits. These are both classified as Secondary A aquifers. The superficial deposits are underlain by the Mercia Mudstone, which is classified as a Secondary B aquifer. The site is not within a groundwater source protection zone. Made



Ground is anticipated across the whole site due to the industrial nature of the site and surroundings. Contamination from previous uses is known to be present, and several historic landfills, with the potential to cause contamination risks to controlled waters, are present on and around the proposed development site.

The approach to the assessment of potential risks from land contamination, as stated in section 6.6.2, is acceptable. We welcome the opportunity to be involved in discussions around the design of any potential intrusive investigations.

Specific construction details are not yet available for the scheme. Section 6.6.2 states that *“The results of the desk-based assessment, addendum Technical Note and the associated conceptual site model will be used to assess data gaps and uncertainties and, if required develop an initial scope for site investigation, which may also be required to assess possible foundation solutions.”* We expect this work to be expanded to include foundation works risk assessment as required, given the likelihood of encountering contamination beneath the development site. It is possible that this could be incorporated into the Construction Environment Management Plan.

### **Regulated installations**

We regulate both the Keadby 1 and Keadby 2 Power Stations. The current Environmental Permit for the site, covering both operational Power Stations, is EPR/YP3133LL/V010.

In December 2022 a Development Consent Order was granted to construct and operate a Carbon Capture and Storage (CCS) enabled Combined Cycle Gas Turbine (CCGT) power station named Keadby 3 Carbon Capture Power Station, comprising a CCGT unit with a capacity of up to 910 megawatts electrical output (gross).

The proposed development is an alternative to the consented Keadby 3 CCS enabled Power Station and would be located within the same site.

The proposed development, which is expected to comprise a single CCGT unit achieving an electrical output capacity of up to 910 megawatts, would require an Environmental Permit to operate as a Section 1.1 (A1) Combustion Activity: Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts.

The applicant should be aware that a full assessment of any potential emissions and their impact will be required as part of any Environmental Permit application.

We have reviewed the following sections in the scoping report:

- Air Quality (Section 6.1)
- Noise and Vibration (Section 6.2)
- Water Environment and Flood Risk (Section 6.5)
- Geology, Hydrogeology and Land Contamination (Section 6.6)
- Climate Change (Section 6.10)
- Materials and Waste (Section 6.12)

- Combined Heat and Power Assessment (Section 6.15)
- Carbon Capture Readiness Assessment (Section 6.16)
- Matters to be Scoped out (Section 7)
- EIA Process (Section 8)

The applicant should ensure that the air quality assessment for the operational phase of the proposed power station includes use of Natural Gas, or Hydrogen, and blending of Natural Gas and Hydrogen as a fuel.

In Section 3.5 the report mentions that material will need to be imported to raise areas of the site and also later considers the disposal of waste to landfill. The definition of Waste Code of Practice provides a mechanism for the re-use of excavated materials on, and between sites, that may assist in the minimization of the production of waste and requirement for disposal to landfill. We advise the applicant to refer to the Definition of Waste Code of Practice:

<https://claire.co.uk/projects-and-initiatives/dow-cop>

### **Informatives**

#### Environmental permit - advice to applicant

The construction and operation of the proposed development may require a number of environmental permits. Early discussions with the Environment Agency about this is important.

The Environmental Permitting (England and Wales) Regulations 2016 require a permit or exemption to be obtained for any activities which will take place:

- on or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culverted main river (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in the floodplain of a main river if the activity could affect flood flow or storage and potential impacts are not controlled by a planning permission

For further guidance please visit <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits> or contact our National Customer Contact Centre on 03708 506 506 (Monday to Friday, 8am to 6pm) or by emailing [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)

The applicant should not assume that a permit will automatically be forthcoming once planning permission has been granted, and we advise them to consult with us at the earliest opportunity.

It would be helpful to understand whether or not the developer is proposing to disapply the Environmental Permitting Regulations (EPR) for Flood Risk Activity Permits (FRAPs). We would recommend early engagement of this matter.

### Remediation

The applicant should consider any permitting requirements for any remediation works that could be required. This includes for the treatment and discharge following treatment. More information can be found here:

[Discharges to surface water and groundwater: environmental permits - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/discharges-to-surface-water-and-groundwater-environmental-permits)

### Waste

The Environmental Protection (Duty of Care) Regulations 1991 for dealing with waste materials are applicable to any off-site movements of wastes. The code of practice applies to you if you produce, carry, keep, dispose of, treat, import or have control of waste in England or Wales.

The law requires anyone dealing with waste to keep it safe and make sure it's dealt with responsibly and only given to businesses authorised to take it. The code of practice can be found here:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/506917/waste-duty-care-code-practice-2016.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/506917/waste-duty-care-code-practice-2016.pdf)

If you need to register as a carrier of waste, please follow the instructions here:

<https://www.gov.uk/register-as-a-waste-carrier-broker-or-dealer-wales>

If materials that are potentially waste are to be used on-site, the applicant will need to ensure they can comply with the exclusion from the Waste Framework Directive (WFD) (article 2(1) (c)) for the use of, 'uncontaminated soil and other naturally occurring material excavated in the course of construction activities, etc...' in order for the material not to be considered as waste. Meeting these criteria will mean waste permitting requirements do not apply.

Where the applicant cannot meet the criteria, they will be required to obtain the appropriate waste permit or exemption.

A deposit of waste to land will either be a disposal or a recovery activity. The legal test for recovery is set out in Article 3(15) of WFD as:

- any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.
- we have produced guidance on the recovery test which can be viewed at:

<https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits#how-to-apply-for-an-environmental-permit-to-permanently-deposit-waste-on-land-as-a-recovery-activity>

You can find more information on the Waste Framework Directive here:

<https://www.gov.uk/government/publications/environmental-permitting-guidance-the-waste-framework-directive>

More information on the definition of waste can be found here:

<https://www.gov.uk/government/publications/legal-definition-of-waste-guidance>



More information on the use of waste in exempt activities can be found here:

<https://www.gov.uk/government/collections/waste-exemptions-using-waste>

Non-waste activities are not regulated by us (i.e. activities carried out under the CL:ARE Code of Practice), however you will need to decide if materials meet End of Waste or By-products criteria (as defined by the Waste Framework Directive). The 'Is it waste' tool, allows you to make an assessment and can be found here:

<https://www.gov.uk/government/publications/isitwaste-tool-for-advice-on-the-by-products-and-end-of-waste-tests>

Where a development involves any significant construction or related activities, we would recommend using a management and reporting system to minimise and track the fate of construction wastes, such as that set out in PAS402: 2013, or an appropriate equivalent assurance methodology. This should ensure that any waste contractors employed are suitably responsible in ensuring waste only goes to legitimate destinations.

Where development involves the use of any non-road going mobile machinery with a net rated power of 37kW and up to 560kW, that is used during site preparation, construction, demolition, and/ or operation, at that site, we strongly recommend that the machinery used shall meet or exceed the latest emissions standards set out in [Regulation \(EU\) 2016/1628](#) (as amended). This shall apply to the point that the machinery arrives on site, regardless of it being hired or purchased, unless agreed in writing with the Local Planning Authority (LPA).

This is particularly important for major residential, commercial, or industrial development located in or within 2km of an Air Quality Management Area for oxides of Nitrogen (NO<sub>x</sub>), and or particulate matter that has an aerodynamic diameter of 10 or 2.5 microns (PM<sub>10</sub> and PM<sub>2.5</sub>). Use of low emission technology will improve or maintain air quality and support LPAs and developers in improving and maintaining local air quality standards and support their net zero objectives.

We also advise, the item(s) of machinery must also be registered (where a register is available) for inspection by the appropriate Competent Authority CA, which is usually the local authority. The requirement to include this may already be required by a policy in the local plan or strategic spatial strategy document. The Environment Agency can also require this same standard to be applied to sites which it regulates. To avoid dual regulation, this informative should only be applied to the site preparation, construction, and demolition phases at sites that may require an environmental permit.

Non-Road Mobile Machinery includes items of plant such as bucket loaders, forklift trucks, excavators, 360 grab, mobile cranes, machine lifts, generators, static pumps, piling rigs etc. The Applicant should be able to state or confirm the use of such machinery in their application, to which this then can be applied.

#### Waste on site

Excavated materials that are recovered via a treatment operation can be re-used on-site under the CL:AIRE Definition of Waste: Development Industry Code of Practice. This voluntary Code of Practice

provides a framework for determining whether or not excavated material arising from site during remediation and/or land development works are waste.

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

The Environment Agency recommends that developers should refer to our:

- position statement on the Definition of Waste: Development Industry Code of Practice
- website at <https://www.gov.uk/government/organisations/environment-agency> for further guidance

Waste to be taken off site

Contaminated soil that is, or must be disposed of, is waste. Therefore, its handling, transport, treatment and disposal is subject to waste management legislation, which includes:

- Duty of Care Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- Environmental Permitting (England and Wales) Regulations 2010
- The Waste (England and Wales) Regulations 2011

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standards BS EN 14899:2005 'Characterisation of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

Yours sincerely

**Morgan Haringman**  
**Planning Specialist**

Direct e-mail [NITeam@environment-agency.gov.uk](mailto:NITeam@environment-agency.gov.uk)

**From:** [REDACTED]  
**To:** [Keadby Hydrogen](#)  
**Cc:** [Midlands ePlanning](#)  
**Subject:** HISTORIC ENGLAND ADVICE RE: EN0110001 – Keadby Hydrogen – EIA Scoping Notification and Consultation our ref PL00795834  
**Date:** 29 May 2024 11:39:03  
**Attachments:** [image004.png](#)  
[image008.png](#)  
[image009.png](#)  
[image011.jpg](#)  
[image013.png](#)  
[image015.png](#)  
[image847196.jpg](#)  
[Keadby 3 HE SCOPING ADVICE to PINS 03 June 2020.pdf](#)

You don't often get email from [REDACTED]

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11 Application by SSE Hydrogen Developments Limited (the Applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station Project (the Proposed Development)**

**Historic England**

The Historic Buildings and Monuments Commission for England (HBMCE) is better known as Historic England, and we are the Government's adviser on all aspects of the historic environment in England, including historic buildings and areas, archaeology and historic landscapes. We have a duty to promote conservation, public understanding and enjoyment of the historic environment. We are an executive Non-Departmental public body and we answer to Parliament through the Secretary of State for Culture, Media and Sport (DCMS).

**ADVICE - Scoping consultation**

Having reviewed the scoping report and information available our advice would appear to be unchanged from Keadby 3. We therefore refer you to our scoping advice in respect of Keadby 3 (EN010114) dated 03 June 2020 as attached.

We also refer you also to the statement of common ground 16 December 2021 between us and Keadby Generation Ltd, noting also our subsequent response to ExA's Question 2 dated 01 Feb 2022.

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010114/EN010114-000515-K3%20-%20Document%208.5%20-%20Historic%20England%20SoCG.pdf>

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010114/EN010114-000570-Historic%20England%20-%20Rule%2017%20Response.pdf>

yours sincerely  
Tim Allen

Tim Allen MA FSA  
Team Leader (Development Advice)

Midlands Region  
Historic England  
The Foundry, 82 Granville Street, Birmingham B1 2LH



**Allen, Tim**

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**From:** Allen, Tim  
**Sent:** 03 June 2020 11:01  
**To:** Keadby3@planninginspectorate.gov.uk  
**Cc:** Midlands ePlanning; alison williams [REDACTED]@northlincs.gov.uk; MacDonald, Alison  
**Subject:** Historic England Scoping Advice EN010114 - Keadby 3 Low Carbon Gas Power Station Project - EIA Scoping Notification and Consultation / Reg 11 Notification

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** Beth

## **Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11**

### **Ref: EN010114 Keadby 3 Low Carbon Gas Power Station Project**

Application by SSE Generation Limited (the Applicant) for an Order granting Development Consent for the Keadby 3 Low Carbon Gas Power Station (the Proposed Development)/

#### Historic England Advice.

Thank you for your letter of 18<sup>th</sup> May 2020, having looked at the EIA scoping report submitted (hereafter 'the report' we have the following observations.

Keadby Lock is a designated heritage asset of national importance, a key site in the understanding water management - at the heart of the industrial revolution.

Structured assessment of the visual (fixed point and kinetic) impacts of the proposed installation on the scheduled and listed Keadby Lock <https://historicengland.org.uk/listing/the-list/list-entry/1005204> & <https://historicengland.org.uk/listing/the-list/list-entry/1342734> and associated waterways are essential and should include metric visualisation, (alongside work in relation to other designated assets) as necessary to understand how the new installation would group with the existing power stations and infrastructure and what additional impacts would be likely / how these might be reduced eliminated. See our <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/>. Physical (construction risks) to the scheduled lock and its environs must also be considered and mitigated through design and protection measures.

We are surprised (6.182) at the implication in the report that all intrusive site investigations as regards archaeology are likely to be pushed to post-consent; this does not appear a sound approach to risk management or to providing the ExA with the information required to determine the application in a robust manner (unless the area is demonstrably archaeologically sterile - which is not shown in the report). In this landscape prehistoric, Roman and early medieval remains can survive below alluvium both through natural and 'warped' deposition processes and within former channels (cf para. 6.172 with reference to a previous find of a bog body in the vicinity), hence archaeological deposit modelling of particular importance. We refer you to the advice of the North Lincolnshire Council's archaeological specialist advisor as regards necessary geophysical survey, deposit modelling (see our guidance <https://historicengland.org.uk/images-books/publications/deposit-modelling-and-archaeology/>) and trial trenching as appropriate). Without a clear understanding of archaeological potential the development will not be able to address the significance of remains in a manner proportionate to their significance as required by national policy, simply asserting that if things are found they will by appropriately dealt with would not per se be sufficient

since only by designing in an appropriate archaeological approach would this be likely to be effective or practicable within a construction scheme.

Yours sincerely  
Tim Allen  
(for Historic England)

Tim Allen  
Development Advice Team Leader (North)  
Midlands Region

Historic England | The Axis  
10 Holliday Street | Birmingham | B1 1TF



FAO: Ian Wallis  
EIA Advisor  
Environmental Services  
Operations Directorate  
The Planning Inspectorate  
[keadbyhydrogen@planninginspectorate.gov.uk](mailto:keadbyhydrogen@planninginspectorate.gov.uk)

CEMHD - Land Use Planning,  
NSIP Consultations,  
Building 1.2, Redgrave Court  
Merton Road, Bootle,  
Merseyside L20 7HS.  
[NSIP.applications@hse.gov.uk](mailto:NSIP.applications@hse.gov.uk)

Date: 17/05/2024

Dear Sir,

**PROPOSED KEADBY HYDROGEN POWER STATION PROJECT  
PROPOSAL BY SSE HYDROGEN DEVELOPMENT LIMITED  
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT)  
REGULATIONS 2017 (AS AMENDED) REGULATIONS 10 AND 11**

Thank you for your email on 1<sup>st</sup> of May 2024 regarding the information to be provided in an environmental statement relating to the above project.

**HSE's land use planning advice:**

**Will the proposed development fall within any of HSE's consultation distances?**

For this EIA scoping notification and consultation from the Applicant, according to HSE's records, the proposed DCO application boundary for this Nationally Significant Infrastructure Project is not within the consultation zones of any major accident hazard sites however is within the consultation zones of several major accident hazard pipelines. This is based on the 'proposed development site' in Figure 1.1 Appendix A1.1, the red line, viewed here [EN0110001-000005-KDBH - Scoping Report.pdf \(planninginspectorate.gov.uk\)](#).

The major accident hazard pipelines are:

- National Grid PLC's 7 Feeder Eastoft/Keadby Power Station, HSE Ref. 7034, Transco ref. 1305.
- National Grid PLC's Keadby Power Station Off-take pipeline, HSE Ref. 4136274.
- National Grid PLC's 7 Feeder Eastoft/Susworth West, HSE Ref. 7031, Transco ref. 1302.

The Applicant should contact the above pipeline operators, to inform an assessment of whether the proposed development is vulnerable to a possible major accident. There are three particular reasons for this:

- i. The pipeline operator may have a legal interest in developments in the vicinity of the pipeline. This may restrict developments within a certain proximity of the pipeline.
- ii. The standards to which the pipeline is designed and operated may restrict major traffic routes within a certain proximity of the pipeline. Consequently, there may be a need for the operator to modify the pipeline or its operation if the development proceeds.
- iii. To establish the necessary measures required to alter/upgrade the pipeline to appropriate standards.

HSE's Land Use Planning advice [[HSE: Land use planning - HSE's land use planning methodology](#)] is dependent on the type of population and location of areas where people may be present within HSE's land use planning zones. Based on the information provided in the Scoping Report, that this will be a place of work, HSE is unlikely to advise against the development. HSE's advice in response to a subsequent planning application may differ should HSE's policy or the scope of the development change by the time the Development Consent Order application is submitted.



### **Would Hazardous Substances Consent be needed?**

Hazardous substances planning consent is required to store or use any of the Categories of Substances or Named Hazardous Substances set out in Schedule 1 of [The Planning \(Hazardous Substances\) Regulations 2015](#) as amended, if those hazardous substances will be present on, over or under the land at or above the controlled quantities. For substances under the controlled quantity, there is an '[addition rule](#)' in Part 4 of Schedule 1 for below-threshold substances.

Based on the Scoping Report [EN0110001-000005-KDBH - Scoping Report.pdf \(planninginspectorate.gov.uk\)](#), it is likely that hazardous substance consent ('HSC') will be required. For example, the controlled quantity for hydrogen is 2 tonnes.. The applicant should engage with a and seek further information on HSC from the relevant Hazardous Substances Authority (often the local planning authority).

Furthermore, it is likely the site will be in scope of the [COMAH Regulations 2015](#). The applicant should contact the COMAH Competent Authority for early engagement: [Control of major accident hazards - Notifications \(hse.gov.uk\)](#).

Note: the Scoping Report touches upon carbon dioxide (CO<sub>2</sub>) and a hook for a future Carbon Capture Readiness report . If carbon dioxide were to be present on the site, whilst hazardous, is not currently within the scope of the hazardous substances regulations 2015 or COMAH regulations 2015. Carbon dioxide hazards are still subject to general health and safety law e.g. [The Health and Safety at Work etc Act 1974](#) and [The Management of Health and Safety at Work Regulations 1999](#) and so should not be left out of any risk assessments.

### **Consideration of risk assessments**

[Regulation 5\(4\)](#) of the [Infrastructure Planning \(Environmental Impact Assessment\) Regulations 2017](#) requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role in NSIPs is summarised in Advice Note 11 'working with public bodies in the infrastructure planning process' Annex G on the Planning Inspectorate's website [[Nationally Significant Infrastructure Projects - Advice Note Eleven, Annex G: The Health and Safety Executive - GOV.UK \(www.gov.uk\)](#)]. This document includes consideration of risk assessments under the heading "Risk assessments".

Major Accidents or Disasters Vulnerability is introduced in Section 6.13 In the Scoping Report. It appears that there was some scoping work to consider relevant fixed sites (consented sites or COMAH sites) that could give rise to this development's vulnerability to major accidents. However, this has missed the consideration of major accident pipelines. Other pipelines conveying substances outside the scope of current specific legislation but still present high hazard potential, such as CO<sub>2</sub> pipelines should be considered in-scope of the search. We would advise this is considered further as the project develops in line with 'Advice Note 11, Annex G: The Health and Safety Executive' taking account of the following: *"it may be beneficial for applicants to undertake a risk assessment as early as possible to satisfy themselves that their design and operation will meet the requirements of relevant health and safety legislation as design of the Proposed Development progresses."* Note that there are no requirements for any risk assessments submitted to and approved by the relevant planning authority to also be considered by HSE.

**Explosives sites:**

Explosives Inspectorate has no comment to make as there are no HSE licenced explosives sites in the vicinity of the proposed development.

At this time, please send any further communication on this project directly to the HSE's designated e-mail account for NSIP applications at [nsip.applications@hse.gov.uk](mailto:nsip.applications@hse.gov.uk). We are currently unable to accept hard copies, as our offices have limited access.

Yours sincerely

CEMHD NSIP Consultation Team



# Isle of Axholme and North Nottinghamshire Water Level Management Board *Water Management Consortium*

Mr A. McGill, M.A., F.C.M.I.  
Chief Executive

Mr R. Brown, BEng (hons), GMICE  
Senior Engineer

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Telephone: 01427 872715  
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Your Ref: EN0110001  
WMC Ref: EN0110001\_WMCNL01  
Please ask for: Darren Cowling  
Email: [REDACTED]@ioadb.co.uk

17 May 2024

Dear Sirs,

**Reference:** EN0110001  
**Location:** Land at and within the vicinity of Keadby Power Station Site, Trentside  
**Parish:** Keadby with Althorpe CP  
**Proposal:** Application by SSE Hydrogen Developments Limited (the Applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station Project (the Proposed Development).  
**Applicant:** SSE Hydrogen Developments Limited  
**NGR:** 481881 - 412044

We refer to the above application and make the following observations:

The site is within the Isle of Axholme and North Nottinghamshire Water Level Management Board district.

There are a number of Board maintained watercourses in proximity to the site that have the potential to be impacted by the development. These watercourses are shown on the attached plan.

The Board's consent is required to erect any building or structure (including walls and fences), whether temporary or permanent, or plant any tree, shrub, willow or other similar growth within 9 metres of the top edge of any Board maintained watercourse or the edge of any Board maintained culvert.

The Board's consent is required for any works, whether temporary or permanent, in, over or under, any Board maintained watercourse or culvert. The Board will require any cable crossings to be provided by means of HDD (or other trenchless methods) at a depth no less than 2 metres PLUS the cable safety distance below the hard bed level.

The erection or alteration of any mill dam, weir or other like obstruction to the flow, or erection or alteration of any culvert, whether temporary or permanent, within the channel of a riparian watercourse will require the Board's prior written consent. The Board's Planning and Byelaw Policy, Advice Notes and Application form is available on the website - [www.wmc-idbs.org.uk/IOAANN](http://www.wmc-idbs.org.uk/IOAANN)

The Board's consent is required for any works that increase the flow or volume of water to any watercourse or culvert within the Board's district (other than directly to a main river for which the consent of the Environment Agency will be required).



The Board's consent is required irrespective of any permission gained under the Town and Country Planning Act 1990. The Board's consent will only be granted where proposals are not detrimental to the flow or stability of the watercourse/culvert or the Board's machinery access to the watercourse/culvert which is required for annual maintenance, periodic improvement and emergency works. It is not anticipated that the dissipation of powers will be needed or appropriate in the case of this development and as such the Board's consent will be required where appropriate.

If you require any further information please do not hesitate to contact the Board's Planning and Development Control Officer, Darren Cowling.

Yours faithfully,



Robert Brown,  
Senior Engineer.





# Defence Infrastructure Organisation

Andy White  
Ministry of Defence  
Safeguarding Department  
DIO Head Office  
St George's House  
DMS Whittington  
Lichfield  
Staffordshire WS14 9PY

Your reference: EN0110001

E-mail: [DIO-safeguarding-statutory@mod.gov.uk](mailto:DIO-safeguarding-statutory@mod.gov.uk)

Our reference: DIO 10062897

[www.mod.uk/DIO](http://www.mod.uk/DIO)

The Planning Inspectorate  
Environmental Services  
Operations Group 3  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

23 May 2024

## By email only

Dear Sir/Madam,

### **MOD Safeguarding – SOSA (Site outside of statutory safeguarding areas)**

**Proposal:** Application by SSE Hydrogen Developments Limited (the Applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station Project (the Proposed Development)

**Location:** Land at, and in the vicinity of, the existing Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF

**Grid Ref:** 481924, 412251

Thank you for consulting the Ministry of Defence (MOD) on the above proposed development. The consultation correspondence was received by this office.

The Defence Infrastructure Organisation (DIO) Safeguarding Team represents the Ministry of Defence (MOD) as a consultee in UK planning and energy consenting systems to ensure that development does not compromise or degrade the operation of defence sites such as aerodromes, explosives storage sites, air weapon ranges, and technical sites or training resources such as the Military Low Flying System.

The applicant has submitted a scoping report relating to an application for an Order granting Development Consent for Keadby Hydrogen Power Station Project. The project will involve



introducing tall and narrow structures to the landscape, no specific details given, however they would be similar to the existing heights at Keadby 1 & 2 Power Stations, (85m & 60m respectively).

### **Low Flying**

In this case the development falls within Low Flying Area 11 (LFA 11), an area within which military aircraft may conduct low level flight training. The addition of a development featuring tall or narrow profile structures such as stacks in this locality has the potential to introduce a physical obstruction to low flying aircraft operating in the area.


**To address this impact, and given the location and scale of the development, the MOD would require that conditions are added to any consent issued requiring that the development is fitted with aviation safety lighting, and that sufficient data is submitted to ensure that structures can be accurately charted to allow deconfliction. Suggested condition wordings are set out in Appendix A.**

As a minimum the MOD would require that any tall structures over 50m are fitted with 25cd/IR COMBI aviation safety lighting which produces Infra-Red (IR) lighting. Any traffic should be coming from approximately a southerly direction so this should be taken into consideration when placing any AWL.

The MOD must emphasise that the advice provided within this letter is in response to the data and information detailed in the developer's document titled 'The Keadby Hydrogen Power Station Project; Environmental Impact Assessment Scoping Report' dated 30 April 2024. Any variation of the parameters (which include the location, dimensions, form, and finishing materials) detailed may significantly alter how the development relates to MOD safeguarding requirements and cause adverse impacts to safeguarded defence assets or capabilities. If any amendment, whether considered material or not by the determining authority, is submitted for approval, the MOD should be consulted and provided with adequate time to carry out assessments and provide a formal response.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely

  
Andy White | Assistant Safeguarding Manager  
Defence Infrastructure Organisation

Working days; Monday to Friday 07:00 – 15:00.

(Appendix A enc)

## **Appendix A**

### **Condition - Aviation Lighting**

Prior to commencing construction of any tall and narrow structures (e.g. stacks), or deploying any construction equipment or temporal structure(s) 50 metres or more in height (above ground level) the undertaker must submit an aviation lighting scheme for the approval of the Planning Authority in conjunction with the Ministry of Defence defining how the development will be lit throughout its life to maintain civil and military aviation safety requirements as determined necessary for aviation safety by the Ministry of Defence.

This should set out:

- a) details of any construction equipment and temporal structures with a total height of 50 metres or greater (above ground level) that will be deployed during the construction of the project and details of any aviation warning lighting that they will be fitted with; and
- b) the location and height of any tall and narrow structures (e.g., stacks) identifying the position of the lights on the stack; the type(s) of lights that will be fitted and the performance specification(s) of the lighting type(s) to be used.

Thereafter, the undertaker must exhibit such lights as detailed in the approved aviation lighting scheme. The lighting installed will remain operational for the lifetime of the development.

#### **Reason for condition.**

To maintain aviation safety.

### **Condition - Aviation Charting and Safety Management**

The undertaker must notify the Ministry of Defence, at least 14 days prior to the commencement of the works, in writing of the following information:

- a) the date of the commencement of the erection of any tall and narrow structures.
- b) the maximum height of any construction equipment to be used in the erection of the power station.
- c) the date the power station is brought into use.
- d) the latitude and longitude and maximum height of any tall and narrow structures (e.g., stacks).

The Ministry of Defence must be notified of any changes to the information supplied in accordance with these requirements and of the completion of the construction of the development.

Reason for condition.

To maintain aviation safety.



Submitted via email to: [keadbyhydrogen@planninginspectorate.gov.uk](mailto:keadbyhydrogen@planninginspectorate.gov.uk)

Date 29<sup>th</sup> May 2024

Dear Sir/Madam,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA regulations) – Regulations 10 and 11**

**Application by SSE Hydrogen Developments Limited (the Applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station (the Proposed Development)**

I refer to your letter dated 1<sup>st</sup> May 2024 regarding the above proposed DCO. This is a response on behalf of National Gas Transmission PLC (NGT). Having reviewed the scoping consultation documents, NGT wishes to make the following comments regarding gas infrastructure which may be affected by proposals.

NGT has 2 feeder mains and freehold operational land located within or in proximity to the Order limits. Details of this infrastructure is as follows:

- Feeder Mains – Eastoft to Keadby PS and Cawood to Susworth T West.
- Freehold Operational Land – HS221703
- Ancillary apparatus

Please note that NGT has existing easements for these pipelines which provides rights for ongoing access and prevents the erection of permanent / temporary buildings/structures, change to existing ground levels or storage of materials etc within the easement strip.

You should also be aware of NGT's guidance for working in proximity to its assets, further guidance and links are available as follows.

**Where the Promoter intends to acquire land, extinguish rights, or interfere with any of NGT's apparatus, NGT will require appropriate protection and further discussion on the impact to its apparatus and rights including adequate Protective Provisions. A Deed of Consent will also be required for any works proposed within the easement strip.**

**Key Considerations:**

- NGT has a Deed of Grant of Easement for each pipeline, which prevents the erection of permanent / temporary buildings, or structures, change to existing ground levels, storage of materials etc.
- Please be aware that written permission is required before any works commence within the NGT easement strip. Furthermore a Deed of Consent will be required prior to

commencement of works within NGT's easement strip subject to approval by NGT's plant protection team.

- Any large installations which may result in a large population increase in the vicinity of a high pressure gas pipeline must comply with the HSE's Land Use Planning methodology, and the HSE response should be submitted to National Gas Transmission for review.
- The below guidance is not exhaustive and all works in the vicinity of NGT's asset shall be subject to review and approval from NGT's plant protection team in advance of commencement of works on site.

#### General Notes on Pipeline Safety:

- You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and NGT's Dial Before You Dig Specification for Safe Working in the Vicinity of NGT Assets. There will be additional requirements dictated by NGT's plant protection team.
- NGT will also need to ensure that its pipelines remain accessible during and after completion of the works.
- Our pipelines are normally buried to a depth cover of 1.1 metres, however actual depth and position must be confirmed on site by trial hole investigation under the supervision of a NGT representative. Ground cover above our pipelines should not be reduced or increased.
- If any excavations are planned within 3 metres of NGT High Pressure Pipeline or, within 10 metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of a NGT representative. A safe working method agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.
- Below are some examples of work types that have specific restrictions when being undertaken in the vicinity of gas assets therefore consultation with NGT's Plant Protection team is essential:
  - Demolition
  - Blasting
  - Piling and boring
  - Deep mining
  - Surface mineral extraction
  - Landfilling
  - Trenchless Techniques (e.g. HDD, pipe splitting, tunnelling etc.)
  - Wind turbine installation - minimum separation distance of 1.5x the mast/hub height is required, and any auxiliary installations such as cable or track crossings will require a deed of consent.

- Solar farm installation
- Tree planting schemes

#### Traffic Crossings:

- Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at agreed locations.
- Permanent road crossings will require a surface load calculation, and will require a deed of consent.
- The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required.
- The type of raft shall be agreed with NGT prior to installation.
- No protective measures including the installation of concrete slab protection shall be installed over or near to the NGT pipeline without the prior permission of NGT
- NGT will need to agree the material, the dimensions and method of installation of the proposed protective measure.
- The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to NGT.
- An NGT representative shall monitor any works within close proximity to the pipeline to comply with NGT specification T/SP/SSW22

#### New Asset Crossings:

- New assets (cables/pipelines etc) may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees.
- The separation distance for a cable >33kV is 1000mm and pre and post energisation surveys may be required at National Gas Transmission's discretion. A risk assessment/method statement will need to be provided to, and accepted by National Gas Transmission prior to the deed of consent being agreed. Where a new asset is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service shall cross below the pipeline with a clearance distance of 0.6 metres.
- A new service should not be laid parallel within an easement strip
- Clearance must be at least 600mm above or below the pipeline
- An NGT representative shall approve and supervise any cable crossing of a pipeline.
- A Deed of Consent is required for any cable crossing the easement

**Where the promoter intends to acquire land, extinguish rights, or interfere with any of NGT apparatus, protective provisions will be required in a form acceptable to it to be included within the DCO. NGT requests to be consulted at the earliest stages to ensure that the most appropriate**



protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection.

Adequate access to NGT pipelines must be maintained at all times during construction and post construction to ensure the safe operation of our network.

Yours Faithfully

Asset Protection Team



### **Further Safety Guidance**

To download a copy of the HSE Guidance HS(G)47, please use the following link:

<https://www.hse.gov.uk/pubns/books/hsg47.htm>

Working Near National Gas Assets

<https://www.nationalgas.com/land-and-assets/working-near-our-assets>

Specification for Safe Working in the Vicinity of National Gas High Pressure Pipelines and Associated Installations

<https://www.nationalgas.com/document/82951/download>

Tree Planting Guidance

<https://www.nationalgas.com/document/82976/download>

Excavating Safely

<https://www.nationalgas.com/document/82971/download>

Dial Before You Dig Guidance

<https://www.nationalgas.com/document/128751/download>

Essential Guidance:

<https://www.nationalgas.com/gas-transmission/document/82931/download>

Solar Farm Guidance

<https://www.nationalgas.com/document/82936/download>

**From:** [NGED, Map Response](#)  
**To:** [Keadby Hydrogen](#)  
**Subject:** FW: EN0110001 – Keadby Hydrogen – EIA Scoping Notification and Consultation  
**Date:** 02 May 2024 08:24:00  
**Attachments:** [image001.jpg](#)  
[image003.png](#)  
[image004.png](#)  
[image006.jpg](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image017.png](#)  
[image018.jpg](#)  
[image019.png](#)  
[image020.png](#)  
[KDBH – Statutory consultation letter.pdf](#)

---

Good Morning Ian Wallis,

Thank you for your email.

Unfortunately we are unable to process your application/request because the location given is showing as out of our area.

From the Postcode / Location given, Keadby, North Lincolnshire, the Distributor covering that area is Northern Powergrid – 0800 011 3332.

If you request relates to National Grid Electricity Transmission, their contact details are:

National Grid Electricity Transmission - ELECTRICITY

Enquiries about working near assets:

Tel: 0800 001 4282 (Asset Protection)

[assetprotection@nationalgrid.com](mailto:assetprotection@nationalgrid.com)

Kind Regards  
Map Response Team

## Map Response

Asset Management & Operations Support / Mapping



+44 (0)1216 239780  
[nged.mapresponse@nationalgrid.co.uk](mailto:nged.mapresponse@nationalgrid.co.uk)

Toll End Road, Tipton, DY4 0HH  
[nationalgrid.co.uk](http://nationalgrid.co.uk)

Please consider the environment before printing this email.

---

**From:** Keadby Hydrogen <[KeadbyHydrogen@planninginspectorate.gov.uk](mailto:KeadbyHydrogen@planninginspectorate.gov.uk)>

**From:** [REDACTED]  
**To:** [Keadby Hydrogen](#)  
**Subject:** EN0110001 - Keadby DCO Hydrogen power Station project  
**Date:** 23 May 2024 16:48:18  
**Attachments:** [DevHU0178 001 TM.pdf](#)

---

You don't often get email from [REDACTED]

Dear inspectorate,

Please find attached the Technical Memorandum which provides more detail of the comment below:

**EN0110001 - EIA (Environmental Impact Assessment) scoping request for the Keadby Hydrogen Power Station Project**

We have reviewed the Environmental Impact Assessment Screening Request [the Report], produced by Ove Arup & Partners Ltd. [Arup] [30 April 2024], and would offer the following comments.

We note that operational phase traffic is initially proposed to be scoped out. It is noted that this approach would be agreed with the relevant highways authority via a Scoping Note; however, we request that National Highways is afforded the opportunity to review the Scoping Note. Particularly, it is important to agree in advance, where possible, the forecast traffic impact on the SRN.

We would expect the applicant to set out the volume of traffic forecast to route via the SRN over the construction and operational phases of the proposed development. We would expect this information to be set out in a Transport Assessment [TA] and Travel Plan [TP]. Our comments with regards to their preparation are set out later in this response.

*Policy*

The scope, as set out in the report, is to include a review of national, regional, and local transport policy. We would highlight that this should include Circular 01/2022; we would specifically highlight that paragraphs 47 to 54 relate to the assessment of development proposals.

*Personal Injury Collision Data*

The Report notes that the TA will include a review of highway safety issues including examination of personal injury accident data. We would expect data for a five-year period to be reviewed, however, it is important to highlight that the years 2020 and 2021 should be excluded due to the impact of the COVID-19 pandemic and associated national lockdown restrictions.

*Traffic Generation and Distribution*

The Report notes that the TA will include a calculation of construction traffic flows over the construction period and the distribution and assignment of the traffic. We reiterate that, prior to excluding the operational flows from the assessment, National Highways be afforded the opportunity to review the TA Scoping Note.

In this regard we would note that in accordance with Circular 01/2022 the

Transport Assessment should set out the transport vision for the development and how the transport vision will be achieved. Significant emphasis should be given to reducing the need to travel, especially by car, and maximising the use of active modes and public transport. Hence, the trip generation set out in the Transport Assessment should accord with that established in the Travel Plan. We would expect to see multi-modal [person] trip rates before and after the implementation of measures to maximise active and sustainable travel and limit the use of the private car.

We also expect any assumptions for the traffic distribution to be a set out with supporting information.

### Capacity Assessments

The Report notes that *“the size of the study area is to be confirmed with the local authorities and National Highways, and key junctions may be identified by these stakeholders that require detailed capacity analysis”*.

Subject to the impact of the proposed development on the SRN, further assessments may be required. With regard to a threshold which may warrant a junction capacity assessment, the Applicant should make reference to the following guidance:

- National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2023);
- National Highways’ guidance document ‘Planning for The Future’ (October 2023); and
- The Department for Transport’s Circular 01/2022.

In particular, we would refer the Applicant to ‘Planning for the Future’, which states that National Highways will look at planning applications assessed as being ‘severe’ on a case-by-case basis. This will take into account the performance and character of the relevant section of the SRN and the predicted effects of the development on its safe operation.

Further, the Applicant should note that the 2007 DfT guidance that describes a ‘30- vehicle threshold for discussions’ does not, for National Highways, justify junction capacity assessments not being undertaken.

Where assessments are required, we offer the following comments:

- Weekday peak hours – the Applicant should take into account that the peak hour periods at SRN junctions may differ to those of the local highway network, and these should be agreed prior to the assessments being carried out;
- A weekday inter-peak period assessment may be required subject to the operation of the development, shift change patterns, and the volume of traffic on the network compared with the typical peak periods;
- Assessment years – in accordance with paragraph 50 of the Circular 01/2022, assessments should be conducted at an opening year to include trips generated by the proposed development, forecasted growth, and committed development. Further, for multi-phase developments, additional assessments shall be provided based on the opening of each phase; and
- In accordance with the Circular 01/2022 – “Planned improvements to the



SRN or local road network should also be considered in any assessment where there is a high degree of certainty that this will be delivered". Confirmation of any planned transport improvements should be agreed with National Highways / the LPA.

#### Committed Development

The Applicant should review and include any relevant committed development traffic flows in the area that are likely to affect the flows at the relevant junctions in the assessment years. In accordance with Planning Practice Guidance, these should include development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years. Appropriate committed development flows should be agreed with the LPA. Circular 01/2022 also notes that the Transport Assessment must "*consider existing and forecast levels of traffic on the SRN, alongside any additional trips from committed developments that would impact on the same sections (link or junction) as the proposed development*". We refer to Footnote 21 which states that:

*"Where development proposals are consistent with an up-to-date plan or strategy (or where there is no up-to-date plan or strategy), this should include all relevant development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years and include the full amount of development to be built. Where development proposals are not consistent with an up-to-date plan or strategy, this should include all relevant development that is consented or allocated over the entirety of the plan period. In some instances, due regard should be had to permissions and allocations in neighbouring authorities. The inclusion or exclusion of specific developments should be agreed with the local planning authority at pre-application stage."*

#### Forecasted Growth

Further to the committed development, we would note that any assumptions underpinning the projected levels of traffic should be clearly stated so as to avoid the default factoring up of baseline traffic.

#### Mitigation

If the opening year assessments demonstrate that a mitigation scheme is required in order to accommodate the impact of the proposed development, there will be a number of requirements prior to determination of the planning application:

- GG142 walking, cycling and horse-riding assessment should be undertaken at the outset to inform the design of any mitigation scheme;
- As noted in Circular 01/2022, "*GG 104 (or its subsequent update) identifies the framework and approach for safety risk assessment to be applied when undertaking any activity that may have an impact on safety on the SRN*".
- The design of road improvements should meet DMRB standards or clearly identify any departures from standard required;
- A Departure from Standards application may be required if the standards set out in DMRB are not achieved. This applies equally to over and under achievement of design standards; and
- A Stage 1 Road Safety Audit should be undertaken prior to the submission of the planning application.

#### Travel Plan

It is noted that the mitigation measures could include a “*Construction Worker Travel Plan to promote sustainable journeys during the construction phase of the development and where possible reduce single occupant car journeys*”. We would offer the following comments for the preparation of a Travel Plan.

As noted, the trip generation in the TA should accord with that set out in a Travel Plan, we would, therefore, request that a Construction Worker Travel Plan [CWTP] is submitted to accompany any forthcoming planning application. With regards to the preparation of a Travel Plan, we refer the applicant to the following paragraphs from Circular 01/2022:

*44. Travel plans are an effective means of incentivising the use of sustainable modes of transport. Where these are required, development promoters must put forward clear targets and commitments to manage down the traffic impact of development and maximise the accessibility of and within sites by walking, wheeling, cycling, public transport and shared travel. Targets for achieving a modal shift to sustainable transport will need to be subject to sustained monitoring and management by an appointed travel plan coordinator. Advice on preparing and monitoring travel plans is contained in the planning practice guidance.*

*47. Where the company is requested to do so, it will engage with local planning authorities and development promoters at the pre-application stage on the scope of transport assessments/statements and travel plans. This process should determine the inputs and methodology relevant to establishing the potential impacts on the SRN and net zero principles that will inform the design and use of the scheme. Development promoters are strongly encouraged to engage with the company to resolve any potential issues and maximise opportunities for walking, wheeling, cycling, public transport and shared travel, as early as possible.*

As discussed, National Highways requires that the Applicant set out a vision for the development, clearly describe any aims, in terms of transport, and explain how these aims will be achieved and why they accord with the prevailing policy. Particularly, National Highways will expect the Applicant to promote and enable a reduction in the need to travel, especially by private car, and prioritise sustainable transport opportunities ahead of capacity enhancements.

We note that, with reference to the Circular 01/2022, National Highways “*will support initiatives that reduce the need to travel by private car and enable the necessary behavioural change to make walking, wheeling, cycling and public transport the natural first choice for all who can take it*”.

The Travel Plan should include targets for mode shift away from the private car and confirmation of person trips by mode; the plan must set out clear targets and commitments to manage down the traffic impact of development and maximise the accessibility by walking, wheeling, cycling, public transport, and shared travel.

Hence, suitable multi-modal (person) trip rates should be set out alongside any travel planning targets. This approach will enable an assessment of residual transport impacts relative to the current land use (see Circular 01/2022,

particularly, paragraphs 47-54).

National Highways will support the preparation of a robust Travel Plan designed to limit the volume of private vehicle trips to and from the development and to promote sustainable modes of travel. To ensure a robust and effective Travel Plan, we recommend that the Travel Plan includes but not be limited to:

- Quantifiable mode shift targets which relate to the trip generation and mode share set out;
- A firm financial commitment with regards to funding for a range of measures (including infrastructure, incentive, and information-based measures) proposed in the short, medium, and long term;
- Details of the phasing of any proposed measures relative to any phasing of the development itself;
- A clear outline of the responsibilities of the different parties involved in implementing, monitoring, and funding the Travel Plan;
- A strategy designed to monitor the volume of vehicle trips; and
- The funding to be committed and made available for the implementation of further measures should the Travel Plan fail to achieve its stated targets.

With reference to the DfT document 'Decarbonising Transport: A Better, Greener Britain' (July 2021), the Travel Plan should also consider how the design of the development will facilitate and ensure that "public transport and active travel are the natural first choice for daily activities".

#### Construction Traffic Management Plan

The Report notes that a "*Construction Traffic Management Plan to seek to control the routing and impact that HGVs will have on the local road network during construction*" is also a mitigation measure. We welcome this approach and would note that a Construction Traffic Management Plan [CTMP] should be provided to National Highways for review and agreement in writing prior to commencement of construction. Construction will then be expected to proceed in accordance with the approved CTMP. Further, it should include, as a minimum:

- A dust management plan;
- A noise management plan;
- Pollution prevention measures;
- Staffing numbers;
- Contractor parking;
- Construction traffic routes;
- Details of delivery arrangements (including for any abnormal loads); and
- Measures to limit and manage transfer of debris on to the highway.

Further, with regard to abnormal loads, the Applicant should contact the National Highways Abnormal Loads Team well in advance of any anticipated delivery dates in order to confirm the suitability of proposed delivery and construction routes. Timely engagement will ensure that any major issues are identified early in the process and thereby reduce the potential for abortive work.

#### Automatic Traffic Counts

We welcome the confirmation that "*the extent of the traffic data and scope for any traffic surveys that may be required will be agreed with the local highway authority and National Highways*".

### Decommissioning

We request that the following Requirement be imposed on any Development Consent Order [DCO]:

*"Unless otherwise agreed in writing by the Local Planning Authority in consultation with National Highways (or its successors) decommissioning of the development hereby approved shall not commence unless and until a Decommissioning Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority in consultation with National Highways (or its successors). Thereafter unless otherwise approved in writing decommissioning shall be undertaken in accordance with the approved plan."*

### Summary

We have highlighted the need for any forthcoming planning application(s) to be accompanied by a Transport Assessment, Travel Plan and Construction Traffic Management Plan.

I trust this response is helpful, but should you require any further information please do not hesitate to contact me.

Yours sincerely,

Becky

Becky Garrett, Planning & Development  
National Highways | 2 City Walk | Leeds | LS11 9AR  
Mob: [REDACTED]  
Web: [www.nationalhighways.co.uk](http://www.nationalhighways.co.uk)

*Please note I work Monday to Thursday*

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**National Highways Limited | General enquiries: 0300 123 5000 | National Traffic Operations Centre, 3 Ridgeway, Quinton Business Park, Birmingham B32 1AF | <https://nationalhighways.co.uk> | [info@nationalhighways.co.uk](mailto:info@nationalhighways.co.uk)**

Registered in England and Wales no 9346363 | Registered Office: Bridge House, 1 Walnut Tree Close, Guildford, Surrey GU1 4LZ

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# DevHU0178 Keadby Hydrogen Power Station

Prepared for: Rebecca Garrett  
Prepared by: Joshua Bell  
Date: 23<sup>rd</sup> May 2024  
Case Reference: DevHU0178  
Document Reference: DevHU0178 001 TM  
Reviewed/approved by: Terry Dale

Limitation: This document has been prepared on behalf of, and for the exclusive use of National Highways, and is subject to, and issued in accordance with, the provisions of the National Spatial Planning Contract. We accept no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this document by any third party.

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## Introduction

In May 2024, National Highways was consulted on an Environmental Impact Assessment [EIA] Scoping Request [ref. EN0110001] submitted by SSE Hydrogen Developments Limited [the Applicant] for an Order granting Development Consent for the Keadby Hydrogen Power Station Project [the Proposed Development].

We note that this is considered to be a Nationally Significant Infrastructure Project [NSIP] and as such, the planning authority is the Planning Inspectorate.

The Jacobs SYSTRA Joint Venture [JSJV], on behalf of National Highways, has reviewed the Environmental Impact Assessment Screening Request [the Report], produced by Ove Arup & Partners Ltd. [Arup] [30 April 2024], and would offer the following comments.

## Existing situation

The location of the application site, relative to the Strategic Road Network [SRN], is presented in **Figure 1**.

The site is located approximately:

- 4km west of M181 / A18 Junction; and
- 4.5km north east of the M180 / A161 Junction.

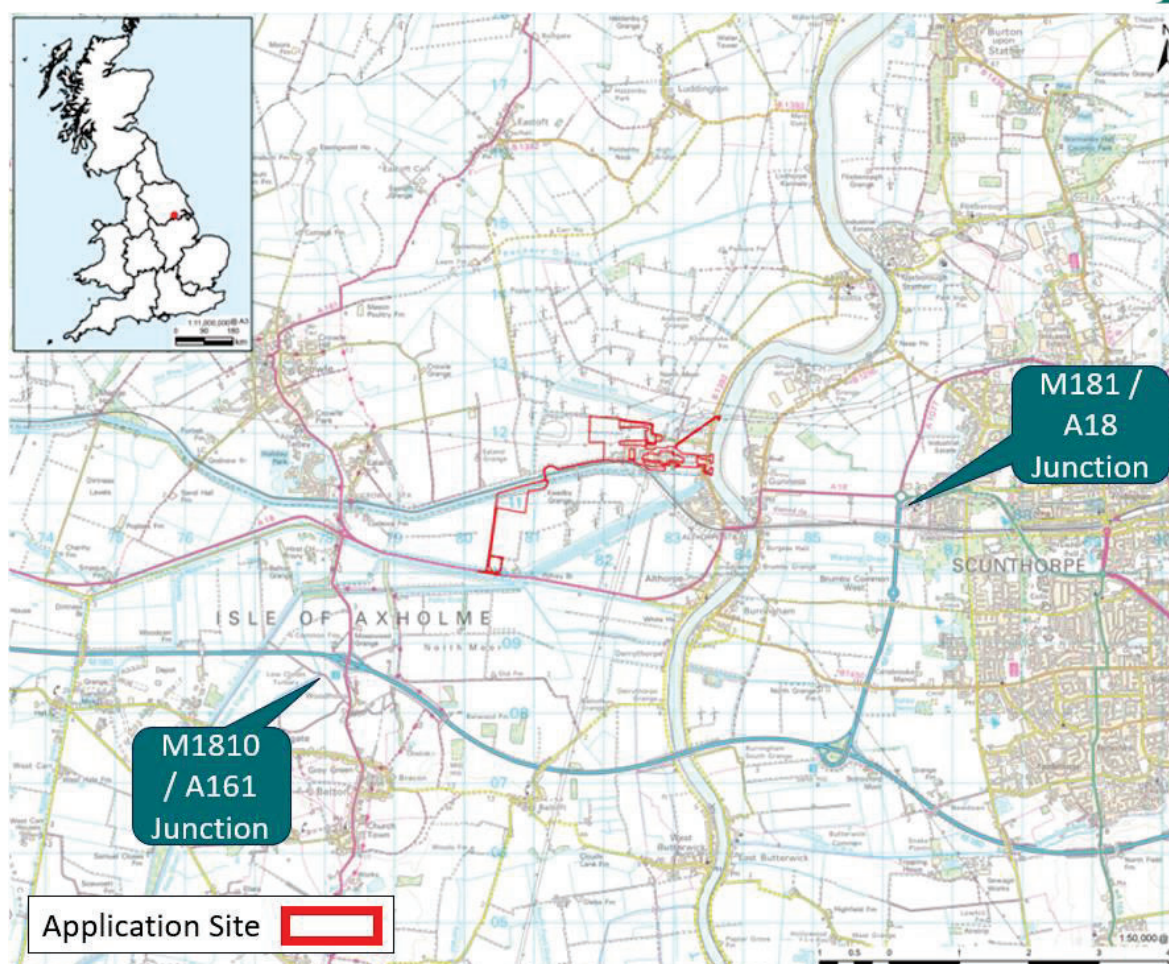


Figure 1. Site location in relation to the Strategic Road Network<sup>1</sup>

## Technical Review

### Proposed Development

The Report notes that the proposed development is a “Hydrogen-fired Combined Cycle Gas Turbine (CCGT) Generating Station” and that the proposed development is “an alternative to the consented Keadby 3 Carbon Capture and Storage (CCS) enabled Power Station and would be located within the same site”. It is also noted that:

*“The route for the hydrogen supply pipeline to the Keadby Hydrogen Power Station has not yet been confirmed. The supply pipeline is not included in the Proposed Development Site and will be progressed by a third party under a separate consent and development.”*

As such, the JSJV would expect that National Highways would be afforded the opportunity to review any planning application(s) for the hydrogen supply pipeline.

### Environmental Impact Assessment

It is noted that the Report “... considers the environmental context of the Proposed Development Site and the potential environmental impacts of the Proposed Development. Where impacts are considered to have the potential to cause significant

<sup>1</sup> Extract from Environmental Impact Assessment Screening Request, produced by Ove Arup & Partners Ltd. [30 April 2024].

*environmental effects, these are identified and the proposed approach to be used to characterise the impacts and understand the significance of their effects is outlined. This report also outlines issues perceived to be non-significant, which it is proposed do not require formal assessment as part of the EIA and can therefore be scoped out of the EIA.”*

The Report also notes that the Proposed Development is a ‘Schedule 1’ development “under the EIA Regulations as it constitutes “Thermal power stations and other combustion installations with a heat output of 300 megawatts or more”. The Report also notes that:

*“EIA is compulsory for Schedule 1 developments given the type and/or the scale of the development is likely to have the potential for significant effects on the environment. As such, an EIA is required for the Proposed Development and an ES must be prepared in accordance with these Regulations to accompany the application. A formal EIA screening opinion is therefore not being sought from the Secretary of State.”*

Nonetheless, National Highways has been consulted on the Report and with reference to Circular 01/2022 (para. 55), National Highways will engage in the relevant screening or scoping process where a potential impact on the SRN is identified.

## Access

It is noted that during construction heavy goods vehicles [HGV] are anticipated to route via the “existing access road from the A18, avoiding heavy commercial traffic from routing through Keadby village”. It is also noted that operational phase traffic would utilise existing access points.

We would anticipate that a proportion of these vehicles would route via the SRN. It is important to note that paragraph 4 of Circular 01/2022 states that:

*“The principal purpose of the SRN is to enable safe, reliable, predictable, efficient, often long distance, journeys of both people (whether as drivers or passengers) and goods in England between our:*

- *main centres of population*
- *major ports, airports and rail terminals*
- *geographically peripheral regions of England and*
- *chief cross-border routes to Scotland and Wales”*

Nonetheless, we would expect the applicant to set out the volume of traffic forecast to route via the SRN over the construction and operational phases of the proposed development. We would expect this information to be set out in a Transport Assessment and Travel Plan. Our comments with regards to their preparation are set out later in this Technical Memorandum, nonetheless, we have reviewed the remainder of the Report.

## Construction

The Report notes that construction is anticipated to commence in 2026 for a duration of approximately 3 and a half years. It is also noted that an Environmental Statement [ES] will “provide further details of the proposed construction activities and their anticipated duration, along with an indicative programme of each phase of the works”.

It is also noted that the ES will be supported by a “*framework Construction Environmental Management Plan (CEMP), which will describe the specific mitigation measures to be followed to reduce impacts from:*

- *Construction traffic (including parking and access requirements)”*

We welcome this approach.

## Decommissioning

The Report notes that the proposed development is likely to operate for at least 25 years and that “*at the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all services would be isolated*”. Further, the Report notes that:

*“A Decommissioning Plan (including Decommissioning Environmental Management Plan) would be produced and agreed with the Environment Agency as part of the Environmental Permitting and site surrender process.”*

This notwithstanding, the JSJV would suggest that the following Requirement be imposed on any Development Consent Order [DCO]:

*“Unless otherwise agreed in writing by the Local Planning Authority in consultation with National Highways (or its successors) decommissioning of the development hereby approved shall not commence unless and until a Decommissioning Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority in consultation with National Highways (or its successors). Thereafter unless otherwise approved in writing decommissioning shall be undertaken in accordance with the approved plan.”*

The inclusion of the Requirement ensures that any effects from the decommissioning phase are to be reviewed and agreed upon by National Highways immediately prior to decommissioning.

## Potentially Significant Environmental Issues

The Report considers the “*methodology and assessment criteria that will be used to assess the potential significance of the identified impacts... alongside potential mitigation measures for implementation following assessment*”. We have reviewed the Traffic and Transport section and would offer the following comments.

### Access

The Report notes that “*there are several potential road traffic access routes to the Proposed Development Site from the Strategic Road Network (SRN)*”. The Report reiterates the A18 route avoiding Keadby village, however, it is also noted that:

*“Alternatively, from the M18 vehicles would route via Junction 5 (J5) and eastbound to the M180 and exit at J1 to the A18 until its junction with the B1392. Vehicles would then travel northbound along the B1392 for approximately 1km. A further alternative route to the Proposed Development Site is via the M180, where vehicles would leave the motorway at J2 towards and travel northbound along the A161 to its junction with the A18. Vehicles would then utilise the final section of the M18 route via the A18 and B1392. The fourth route to the Proposed Development Site is via the A18 Doncaster Road from either the A1077 to the south or the M181 to the south.”*



It is important to note that *“the study area will comprise these main highway links and the public transport, cycle and walking provision within the immediate vicinity of these links”*. We welcome this approach.

### Accessibility

The Report sets out a brief overview of accessibility in the vicinity of the application site by walking, cycling and public transport. We would expect a detailed assessment of this to be set out in a Transport Assessment and Travel Plan.

### Scope of Assessment

It is noted that the following potential impacts will be assessed:

- *“Generation of traffic during construction (and decommissioning) affecting the local and strategic road network;*
- *Generation of traffic during operation affecting the local and strategic road network; and*
- *Generation of traffic during decommissioning affecting the local and strategic road network.”*

Nonetheless, it is noted in the Report that:

*“The volume of construction vehicles associated with the delivery of plant and the labour force has not yet been determined. However, the highest volume of HGV and traffic movements will be associated with the construction phase of the Proposed Development.”*

With regard to the operational phase of the proposed development it is anticipated that this will *“result in a limited number of operational roles and deliveries”*. The Report also notes that *“it is proposed that the transport assessment scope specifically excludes operational traffic assessment”*. Section 7 of the Report sets out the matters to be scoped out and it is stated that:

*“Depending on the forecast volumes of operational traffic, a detailed environmental assessment of this phase would potentially be scoped out following agreement on the TA scope with the relevant highway authorities.”*

It is noted that this approach would be agreed with the relevant highways authority via a Scoping Note; however, we would recommend that National Highways is afforded the opportunity to review the Scoping Note. Particularly, it is important to agree in advance, where possible, the forecast traffic impact on the SRN.

Importantly, the Report also notes that:

*“To fully address the impacts of the construction phase on the transport network, the main document supporting the ES Chapter would be the Transport Assessment (TA). The scope of the TA will be developed (following determination of the number of construction movements) in liaison with all relevant local and strategic highway authorities.”*

The following section of this Technical Memorandum will review the proposed scope and offer out comments, where relevant.

### Policy

The scope, as set out in the report, is to include a review of national, regional, and local transport policy. We would highlight that this should include Circular 01/2022; we would specifically highlight that paragraphs 47 to 54 relate to the assessment of development proposals.

### Personal Injury Collision Data

The Report notes that the TA will include a review of highway safety issues including examination of personal injury accident data. We would expect data for a five-year period to be reviewed, however, it is important to highlight that the years 2020 and 2021 should be excluded due to the impact of the COVID-19 pandemic and associated national lockdown restrictions.

### Traffic Generation and Distribution

The Report notes that the TA will include a calculation of construction traffic flows over the construction period and the distribution and assignment of the traffic. We would reiterate that, prior to excluding the operational flows from the assessment, National Highways should be afforded the opportunity to review the TA Scoping Note.

In this regard we would note that in accordance with Circular 01/2022 the Transport Assessment should set out the transport vision for the development and how the transport vision will be achieved. Significant emphasis should be given to reducing the need to travel, especially by car, and maximising the use of active modes and public transport. Hence, the trip generation set out in the Transport Assessment should accord with that established in the Travel Plan. We would expect to see multi-modal [person] trip rates before and after the implementation of measures to maximise active and sustainable travel and limit the use of the private car.

The JSJV would also expect any assumptions for the traffic distribution to be a set out with supporting information.

### Capacity Assessments

The Report notes that *“the size of the study area is to be confirmed with the local authorities and National Highways, and key junctions may be identified by these stakeholders that require detailed capacity analysis”*.

Subject to the impact of the proposed development on the SRN, further assessments may be required. With regard to a threshold which may warrant a junction capacity assessment, the Applicant should make reference to the following guidance:

- National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2023);
- National Highways’ guidance document ‘Planning for The Future’ (October 2023); and
- The Department for Transport’s Circular 01/2022.

In particular, we would refer the Applicant to ‘Planning for the Future’, which states that National Highways will look at planning applications assessed as being ‘severe’ on a case-by-case basis. This will take into account the performance and character of the relevant section of the SRN and the predicted effects of the development on its safe operation.

Further, the Applicant should note that the 2007 DfT guidance that describes a ‘30-vehicle threshold for discussions’ does not, for National Highways, justify junction capacity assessments not being undertaken.

Where assessments are required, the JSJV would offer the following comments:

- Weekday peak hours – the Applicant should take into account that the peak hour periods at SRN junctions may differ to those of the local highway network, and these should be agreed prior to the assessments being carried out;

- A weekday inter-peak period assessment may be required subject to the operation of the development, shift change patterns, and the volume of traffic on the network compared with the typical peak periods;
- Assessment years – in accordance with paragraph 50 of the Circular 01/2022, assessments should be conducted at an opening year to include trips generated by the proposed development, forecasted growth, and committed development. Further, for multi-phase developments, additional assessments shall be provided based on the opening of each phase; and
- In accordance with the Circular 01/2022 – *“Planned improvements to the SRN or local road network should also be considered in any assessment where there is a high degree of certainty that this will be delivered”*. Confirmation of any planned transport improvements should be agreed with National Highways / the LPA.

### **Committed Development**

A cumulative impact assessment is stated to be included in the scope of the TA; the Report notes that this would include *“consideration of the traffic likely to be generated by other committed and proposed Developments in the study area”*.

As such, the Applicant should review and include any relevant committed development traffic flows in the area that are likely to affect the flows at the relevant junctions in the assessment years. In accordance with Planning Practice Guidance, these should include development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years. Appropriate committed development flows should be agreed with the LPA. Circular 01/2022 also notes that the Transport Assessment must *“consider existing and forecast levels of traffic on the SRN, alongside any additional trips from committed developments that would impact on the same sections (link or junction) as the proposed development”*. We would make reference to Footnote 21 which states that:

*“Where development proposals are consistent with an up-to-date plan or strategy (or where there is no up-to-date plan or strategy), this should include all relevant development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years and include the full amount of development to be built. Where development proposals are not consistent with an up-to-date plan or strategy, this should include all relevant development that is consented or allocated over the entirety of the plan period. In some instances, due regard should be had to permissions and allocations in neighbouring authorities. The inclusion or exclusion of specific developments should be agreed with the local planning authority at pre-application stage.”*

### **Forecasted Growth**

Further to the committed development, we would note that any assumptions underpinning the projected levels of traffic should be clearly stated so as to avoid the default factoring up of baseline traffic.

### **Mitigation**

The Report references mitigation measures and we would note that if the opening year assessments demonstrate that a mitigation scheme is required in order to accommodate the impact of the proposed development, there will be a number of requirements prior to determination of the planning application:

- GG142 walking, cycling and horse-riding assessment should be undertaken at the outset to inform the design of any mitigation scheme;

- As noted in Circular 01/2022, “GG 104 (or its subsequent update) identifies the framework and approach for safety risk assessment to be applied when undertaking any activity that may have an impact on safety on the SRN”.
- The design of road improvements should meet DMRB standards or clearly identify any departures from standard required;
- A Departure from Standards application may be required if the standards set out in DMRB are not achieved. This applies equally to over and under achievement of design standards; and
- A Stage 1 Road Safety Audit should be undertaken prior to the submission of the planning application.

### Travel Plan

It is noted that the mitigation measures could include a “*Construction Worker Travel Plan to promote sustainable journeys during the construction phase of the development and where possible reduce single occupant car journeys*”. We would offer the following comments for the preparation of a Travel Plan.

As noted, the trip generation in the TA should accord with that set out in a Travel Plan. With regards to the preparation of a Travel Plan, the JSJV would make reference to the following paragraphs from Circular 01/2022:

*44. Travel plans are an effective means of incentivising the use of sustainable modes of transport. Where these are required, development promoters must put forward clear targets and commitments to manage down the traffic impact of development and maximise the accessibility of and within sites by walking, wheeling, cycling, public transport and shared travel. Targets for achieving a modal shift to sustainable transport will need to be subject to sustained monitoring and management by an appointed travel plan coordinator. Advice on preparing and monitoring travel plans is contained in the planning practice guidance.*

*47. Where the company is requested to do so, it will engage with local planning authorities and development promoters at the pre-application stage on the scope of transport assessments/statements and travel plans. This process should determine the inputs and methodology relevant to establishing the potential impacts on the SRN and net zero principles that will inform the design and use of the scheme. Development promoters are strongly encouraged to engage with the company to resolve any potential issues and maximise opportunities for walking, wheeling, cycling, public transport and shared travel, as early as possible.*

As discussed, National Highways requires that the Applicant set out a vision for the development, clearly describe any aims, in terms of transport, and explain how these aims will be achieved and why they accord with the prevailing policy. Particularly, National Highways will expect the Applicant to promote and enable a reduction in the need to travel, especially by private car, and prioritise sustainable transport opportunities ahead of capacity enhancements.

The JSJV would note that, with reference to the Circular 01/2022, National Highways “*will support initiatives that reduce the need to travel by private car and enable the necessary behavioural change to make walking, wheeling, cycling and public transport the natural first choice for all who can take it*”.

The Travel Plan should include targets for mode shift away from the private car and confirmation of person trips by mode; the plan must set out clear targets and



commitments to manage down the traffic impact of development and maximise the accessibility by walking, wheeling, cycling, public transport, and shared travel.

Hence, suitable multi-modal (person) trip rates should be set out alongside any travel planning targets. This approach will enable an assessment of residual transport impacts relative to the current land use (see Circular 01/2022, particularly, paragraphs 47-54).

National Highways will support the preparation of a robust Travel Plan designed to limit the volume of private vehicle trips to and from the development and to promote sustainable modes of travel. To ensure a robust and effective Travel Plan, JSJV would recommend that the Travel Plan includes but not be limited to:

- Quantifiable mode shift targets which relate to the trip generation and mode share set out;
- A firm financial commitment with regards to funding for a range of measures (including infrastructure, incentive, and information-based measures) proposed in the short, medium, and long term;
- Details of the phasing of any proposed measures relative to any phasing of the development itself;
- A clear outline of the responsibilities of the different parties involved in implementing, monitoring, and funding the Travel Plan;
- A strategy designed to monitor the volume of vehicle trips; and
- The funding to be committed and made available for the implementation of further measures should the Travel Plan fail to achieve its stated targets.

With reference to the DfT document 'Decarbonising Transport: A Better, Greener Britain' (July 2021), the Travel Plan should also consider how the design of the development will facilitate and ensure that *"public transport and active travel are the natural first choice for daily activities"*.

### **Construction Traffic Management Plan**

The Report notes that a *"Construction Traffic Management Plan to seek to control the routing and impact that HGVs will have on the local road network during construction"* is also a mitigation measure. We welcome this approach and would note that a Construction Traffic Management Plan [CTMP] should be provided to National Highways for review and agreement in writing prior to commencement of construction. Construction will then be expected to proceed in accordance with the approved CTMP.

Further, the CTMP will need to include the following:

- A dust management plan;
- A noise management plan;
- Pollution prevention measures;
- Staffing numbers;
- Contractor parking;
- Construction traffic routes;
- Details of delivery arrangements (including for any abnormal loads); and
- Measures to limit and manage transfer of debris on to the highway.

## Abnormal Loads

The Applicant should contact the National Highways Abnormal Loads Team well in advance of any anticipated delivery dates in order to confirm the suitability of proposed delivery and construction routes. Timely engagement will ensure that any major issues are identified early in the process and thereby reduce the potential for abortive work.

## Environmental Statement

The Report sets out the scope of the ES and methodology for assessment. We note that this is to be in accordance with the “*Institute of Environmental Management and Assessment (IEMA) Guidelines – Environmental Assessment of Traffic and Movement (2023)*”. We consider this to be appropriate.

## Automatic Traffic Counts

It is noted that Automatic Traffic Counts will be undertaken at “*a number of locations in the vicinity of the Proposed Development to determine the baseline traffic conditions of the surrounding highway network*”. We welcome the confirmation that “*the extent of the traffic data and scope for any traffic surveys that may be required will be agreed with the local highway authority and National Highways*”.

## Summary and Conclusions

On the basis of this review, the recommendation to National Highways in relation to this development proposals is:

**Pre-application / Scoping Response** – comments are made on the pre-application / scoping in order to assist defining an appropriate assessment of the Strategic Road Network.

The review has highlighted the need for any forthcoming planning application(s) to be accompanied by a Transport Assessment, Travel Plan and Construction Traffic Management Plan.

**From:** [NATS Safeguarding](#)  
**To:** [Keadby Hydrogen](#)  
**Subject:** RE: EN0110001 – Keadby Hydrogen – EIA Scoping Notification and Consultation [SG29724]  
**Date:** 08 May 2024 10:03:47  
**Attachments:** [~WRD0002.jpg](#)  
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Our Ref: SG29724

Dear Sir/Madam

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours faithfully



**NATS Safeguarding**

E: [natssafeguarding@nats.co.uk](mailto:natssafeguarding@nats.co.uk)

4000 Parkway, Whiteley,  
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NATS Public

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**From:** Keadby Hydrogen <[KeadbyHydrogen@planninginspectorate.gov.uk](mailto:KeadbyHydrogen@planninginspectorate.gov.uk)>  
**Sent:** Wednesday, May 1, 2024 7:47 PM

Date: 29 May 2024  
Our ref: 475149  
Your ref: EN0110001



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**BY EMAIL ONLY**

Dear Stephanie Newman,

**Environmental Impact Assessment Scoping Consultation under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulation 11**

**Proposal:** Order granting Development Consent for the Keadby Hydrogen Power Station Project.

**Location:** on land at, and in the vicinity of, the existing Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF.

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in the consultation dated 01 May 2024, received on 01 May 2024.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

A robust assessment of environmental impacts and opportunities, based on relevant and up to date environmental information, should be undertaken prior to an application for a Development Consent Order (DCO). Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for the proposed development.

Detailed advice on scoping the Environmental Statement is available in the attached Annex.

For any further advice on this consultation please contact the case officer Louis Jones [REDACTED]@naturalengland.org.uk) and copy to [consultations@naturalengland.org.uk](mailto:consultations@naturalengland.org.uk).

Yours sincerely

Louis Jones

**Sustainable Development**  
Yorkshire and Northern Lincolnshire Area Team

[www.gov.uk/natural-england](http://www.gov.uk/natural-england)



## **Annex A – Natural England Advice on EIA Scoping**

### **1. General Principles**

- 1.1 Regulation 11 of the Infrastructure Planning Regulations 2017 - (The EIA Regulations) sets out the information that should be included in an Environmental Statement (ES) to assess impacts on the natural environment. This includes:
- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases.
  - Appropriately scaled and referenced plans which clearly show the information and features associated with the development.
  - An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
  - A description of the aspects and matters requested to be scoped out of further assessment with adequate justification provided.
  - Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation etc.) resulting from the operation of the proposed development.
  - A description of the aspects of the environment likely to be significantly affected by the development including biodiversity (for example fauna and flora), land, including land take, soil, water, air, climate (for example greenhouse gas emissions, impacts relevant to adaptation, cultural heritage and landscape and the interrelationship between the above factors).
  - A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium, and long term, permanent and temporary, positive, and negative effects. Effects should relate to the existence of the development, the use of natural resources (in particular land, soil, water and biodiversity) and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.
  - A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
  - An outline of the structure of the proposed ES.

### **2. Cumulative and in-combination effects**

- 2.1 It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.
- 2.2 The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):
- a. existing completed projects;
  - b. approved but uncompleted projects;
  - c. ongoing activities;
  - d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
  - e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

- 2.3 Table 1 includes a non-comprehensive list of other projects that are proposed in close proximity to this proposal. The ES should consider potential impacts from the Project both alone and in combination with all other relevant plans or projects.

<b>Table 1:</b> Non-comprehensive list of plans or projects that Natural England are aware of that might need to be considered in the ES	
<i>Project/Plan</i>	<i>Reference</i>
Scunthorpe Electric Arc Furnace	PA/2024/123
North Lincolnshire Green Energy Park	-
North Humber to High Marnham works to high voltage power network	PA/2023/1915.

- 2.4 We note that Keadby 3 Carbon Capture Power Station DCO has been excluded from Table 15 because the Proposed Development is an alternative to Keadby 3 Power Station, so there is no potential for cumulative effects to occur.

### 3. Environmental Data

- 3.1 Natural England is required to make available information it holds where requested to do so. National datasets held by Natural England are available at <http://www.naturalengland.org.uk/publications/data/default.aspx>.
- 3.2 Detailed information on the natural environment is available at [www.magic.gov.uk](http://www.magic.gov.uk). This includes Marine Conservation Zone GIS shapefiles.
- 3.3 Natural England's SSSI Impact Risk Zones are a GIS dataset which can be used to help identify the potential for the development to impact on a SSSI. The dataset and user guidance can be accessed from the [Natural England Open Data Geoportal](http://www.naturalengland.org.uk/publications/data/default.aspx).
- 3.4 Natural England does not hold local information on local sites, local landscape character, priority habitats and species or protected species. Local environmental data should be obtained from the appropriate local bodies. This may include the local environmental records centre, the local wildlife trust, local geo-conservation group or other recording society.

### 4. Biodiversity and Geodiversity

- 4.1 The assessment will need to include potential impacts of the proposal upon sites and features of nature conservation interest as well as opportunities for nature recovery through biodiversity net gain (BNG). There might also be strategic approaches to take into account.
- 4.2 Ecological Impact Assessment (EclA) is the process of identifying, quantifying, and evaluating the potential impacts of defined actions on ecosystems or their components. EclA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal. Guidelines have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM).

### 5. International and European sites

- 5.1 The development site is within or may impact on the following **European/internationally designated nature conservation site(s)**:
- Humber Estuary Special Protection Area (SPA)
  - Humber Estuary Special Area of Conservation (SAC)
  - Humber Estuary Ramsar
  - Thorne Moor SAC
  - Thorne and Hatfield Moors SPA

- 5.2 The ES should thoroughly assess the potential for the proposal to affect internationally designated sites of nature conservation importance / European sites, including marine sites where relevant. This includes Special Protection Areas (SPA), Special Areas of Conservation (SAC), listed Ramsar sites, candidate SAC and proposed SPA.
- 5.3 Article 6 (3) of the Habitats Directive requires an appropriate assessment where a plan or project is likely to have a significant effect upon a European Site, either individually or in combination with other plans or projects.
- 5.4 Table 2 provides advice on potential impacts where further information is required to assess the potential impacts on internationally designated sites. This advice is based on the information provided at this stage. Natural England may have more detailed comments to make once further information is provided.

**Table 2: Potential risk to International designated sites:** the development is within or may impact on the following European/Internationally designated site(s).

Site name with link to conservation objective	Potential impact pathways where further information/assessment is required
<p>1. Humber Estuary Special Protection Area (SPA)  <a href="#">European Site Conservation Objectives for Humber Estuary SPA</a></p>	<p><u>Potential noise and visual disturbance impacts to designated species during construction and operation and potential temporary or permanent impacts on foraging resources for qualifying species features</u></p> <p>Potential impacts that may arise from the proposal relate to the presence of mobile SPA interest features both within and outside of the site boundary. Natural England advises that the potential for onsite and offsite impacts should be considered in assessing what, if any, potential impacts the proposal may have on European sites.</p> <p>Natural England advises the HRA should consider potential noise and visual disturbance impacts to functionally linked land during construction and operation and potential temporary or permanent impacts on foraging resources for qualifying species features. We note that Table 5 of the Scoping Report states that a data search and a Preliminary Ecological Appraisal (March 2024) have been undertaken to assess habitat suitability to determine wintering and passage bird survey requirements. However, as the results of these have not been provided, we are unable to determine whether the desk-based assessment proposed is sufficient.</p> <p>Natural England welcomes the applicant's commitment to update the ecological baseline information previously submitted with the Keadby 3 Power Station DCO application. Section 7.3 references the 'PEA' on a number of occasions as evidence for why wintering bird surveys are not needed. Furthermore, it is stated that an update of the PEA was 'completed March 2024 to reverify the baseline'. Without viewing this updated PEA we cannot advise fully at this point in time on to what extent the ES should consider SPA species.</p> <p><u>Potential air quality impacts during operation</u></p> <p>Please refer to air quality section for further advice on air quality impacts to the Humber Estuary designated sites.</p>

**Table 2: Potential risk to International designated sites:** the development is within or may impact on the following European/Internationally designated site(s).

Site name with link to conservation objective	Potential impact pathways where further information/assessment is required
<p>2. Humber Estuary Special Area of Conservation (SAC)  <a href="#">European Site Conservation Objectives for Humber Estuary SAC</a></p>	<p><u>Potential loss/ deterioration of SAC habitat</u></p> <p>We note that the red line boundary includes areas that are within the Humber Estuary SAC. This will need to be assessed in the HRA.</p> <p><u>Potential air quality impacts during construction and operation</u></p> <p>Please refer to air quality section for further advice on air quality impacts to the Humber Estuary designated sites.</p> <p><u>Potential impacts on lamprey migration routes and habitats during construction and operation</u></p> <p>As the Proposed Development may require works in the adjacent waterways consideration of lamprey is required, as the River Trent is a lamprey migration route. We therefore advise that potential construction and operation impacts to lamprey migration routes and habitats should be assessed, including potential impacts resulting from noise and vibration and habitat loss/degradation, entrapment, and deterioration of water quality/volume. Natural England notes that timing restrictions for high disturbance activities were required for Keadby 3 to mitigate impacts on lamprey.</p> <p><u>Potential Water Quality and Surface Water Drainage Impacts During Construction and Operation</u></p> <p>The HRA should include an assessment of the risk of pollutants in surface water run-off entering the Humber Estuary designated sites, along with suitable treatment measures if required.</p> <p>The HRA will need to consider the potential impacts that may occur when discharging the water from the cooling system into the River Trent. Measures to avoid or prevent these impacts should be detailed, if required. This may need to include an assessment of the potential risks from a change of temperature to the watercourse.</p>
<p>3. Humber Estuary Ramsar  <a href="#">Designated Sites View</a></p>	<p>Our advice regarding the Humber Estuary Ramsar broadly coincides with the above advice for the relevant features of the Humber Estuary SPA and Humber Estuary SAC.</p>
<p>4. Thorne Moor SAC &amp; Thorne and Hatfield Moors SPA  <a href="#">Designated Sites View / Designated Sites View</a></p>	<p>For our advice on Thorne Moor SAC &amp; Thorne and Hatfield Moors SPA, refer to air quality section.</p>

## 6. Nationally designated sites - Sites of Special Scientific Interest

- 6.1 Sites of Special Scientific Interest are protected under the Wildlife and Countryside Act 1981 (as amended). Further information on the SSSI and its special interest features can be found at



- 6.2 The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within the SSSI and identify appropriate mitigation measures to avoid, minimise or reduce any adverse significant effects.
- 6.3 The development site is within or may impact on the following Site of Special Scientific Interest:
1. Humber Estuary SSSI
  2. Thorne, Crowle and Goole Moors SSSI
  3. Hatfield Chase Ditches SSSI
  4. Crowle Borrow Pits SSSI
  5. Eastoft Meadow SSSI
  6. Belshaw SSSI
  7. Epworth Turbary SSSI
  8. Risby Warren SSSI
  9. Messingham Sand Quarry SSSI
  10. Messingham Heath SSSI
  11. Tuetoos Hills SSSI
  12. Haxey Turbary SSSI
  13. Rush Furlong SSSI
  14. Hatfield Moors SSSI
  15. Manton and Twigmoor SSSI
  16. Scotton and Laughton Forest Ponds SSSI
  17. Hewson's Field SSSI
  18. Broughton Far Wood SSSI
  19. Broughton Alder Wood SSSI
  20. Scotton Beck Fields SSSI
  21. Scotton Common SSSI
  22. Laughton Common SSSI
- 6.4 For the above SSSI numbered: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22 air quality impacts to designated features are the primary consideration and should be addressed in the air quality assessment. See the air quality section for further advice on these sites.
- 6.5 Our advice regarding the Humber Estuary SSSI broadly coincides with that set out in section 5 above for the corresponding European sites. However, we highlight that Humber Estuary SSSI is designated for additional features. Therefore, potential impacts on these features should also be considered in the relevant assessment and appropriate justification provided where impacts are ruled out.
- 6.6 Natural England acknowledges the point made in 6.5.1.3 of the EIA Scoping Report that Crowle Borrow Pits and Hatfield Chase Ditches are not hydrologically connected to the site, and therefore will not be considered any further by the water environment impact assessment. Natural England agrees with this justification.

## **7. Protected Species**

- 7.1 The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law. Records of protected species should be obtained from appropriate local biological record centres, nature conservation organisations and local groups. Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area.
- 7.2 The area likely to be affected by the development should be thoroughly surveyed by competent

ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and, where necessary, licensed, consultants.

- 7.3 Natural England has adopted [standing advice](#) for protected species, which includes guidance on survey and mitigation measures. A separate protected species licence from Natural England or Defra may also be required. Applicants can make use of Natural England's charged [Pre Submission Screening Service](#) for a review of a draft wildlife licence application.
- 7.4 Natural England welcomes the applicant's commitment to update the ecological baseline information previously submitted with the Keadby 3 Power Station DCO application. Section 7.3 references the 'PEA' on a number of occasions as evidence for why surveys are not needed. Furthermore, it is stated that an update of the PEA was '*completed March 2024 to reverify the baseline*'. Without viewing this updated PEA we cannot advise fully at this point in time on to what extent the ES should consider protected species.

## 8. Priority Habitats and Species

- 8.1 Priority Habitats and Species are of particular importance for nature conservation and included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the Magic website or as Local Wildlife Sites. Lists of priority habitats and species can be found [here](#). Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely.
- 8.2 Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land. Sites can be checked against the (draft) national Open Mosaic Habitat (OMH) inventory published by Natural England and freely available to [download](#). Further information is also available [here](#).
- 8.3 An appropriate level habitat survey should be carried out on the site, to identify any important habitats present. In addition, ornithological, botanical, and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:
- Any historical data for the site affected by the proposal (e.g. from previous surveys)
  - Additional surveys carried out as part of this proposal
  - The habitats and species present
  - The status of these habitats and species (e.g. whether priority species or habitat)
  - The direct and indirect effects of the development upon those habitats and species
  - Full details of any mitigation or compensation measures
  - Opportunities for biodiversity net gain or other environmental enhancement

## 9. Ancient Woodland, ancient and veteran trees

- 9.1 The ES should assess the impacts of the proposal on the ancient woodland and any ancient and veteran trees, and the scope to avoid and mitigate for adverse impacts. It should also consider opportunities for enhancement.
- 9.2 Ancient woodland is an irreplaceable habitat of great importance for its wildlife, its history, and the contribution it makes to our diverse landscapes. Paragraph 186 of the National Planning Policy Framework (NPPF) sets out the highest level of protection for irreplaceable habitats and development should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists.
- 9.3 Natural England maintains the [Ancient Woodland Inventory](#) which can help identify ancient woodland. The [wood pasture and parkland inventory](#) sets out information on wood pasture and

parkland.

- 9.4 The [ancient tree inventory](#) provides information on the location of ancient and veteran trees.
- 9.5 Natural England and the Forestry Commission have prepared [standing advice](#) on ancient woodland, ancient and veteran trees.

## 10. Biodiversity net gain

- 10.1 The Environment Act 2021 includes NSIPs in the requirement for BNG. The biodiversity gain objective for NSIPs is defined as at least a 10% increase in the pre-development biodiversity value of the on-site habitat. BNG does not become mandatory for NSIPs until November 2025. The intention is for NSIPs to use the same broad approach as TCPA development. Defra have made a commitment to consult on the biodiversity gain statement in March 2024 and publish a final version, alongside further NSIP guidance, in September 2024. It's the intention that this 'core' statement will be integrated into National Policy Statements (NPS) as these are reviewed. Many NSIPs are already voluntarily designing BNG into their schemes and some organisations have made public BNG commitments.
- 10.2 We recommend that developers use the latest version of the Defra biodiversity metric to calculate BNG ([currently the Statutory Biodiversity Metric](#)) and adhere to the rules and principles set out within the metric guidance.
- 10.3 Natural England encourages consideration of BNG ahead of it becoming mandatory for NSIPs and supports the government's stance that major infrastructure developments should lead by example in showing how investment in sustainable infrastructure can better serve communities, including through the delivery of environmental goals, such as flood resilience, expanding natural habitats and contributing toward Net Zero greenhouse gas emissions. Nature-based solutions built into infrastructure schemes provide one means for setting in place the government's 25 Year Environment Plan.
- 10.4 We note that the Scoping Report states that "a full BNG assessment, which would also consider the measures needed to achieve 10% BNG, is not proposed to accompany the DCO application given that this is only mandatory for planning applications after determination as a pre-commencement requirement." Whilst we acknowledge that BNG for NSIPs is not mandatory, we would still encourage the provision of as much BNG assessment as possible at an early stage to help ensure gains are maximised. It will allow any issues to be highlighted and addressed more easily and cost effectively. Early identification of areas of on-site and off-site habitat creation and enhancement is recommended. Best practice is for developers to submit a biodiversity gain plan and completed biodiversity metric with their application, with enhancements then being secured by requirements in the Development Consent Order (DCO).
- 10.5 Natural England recognises the high opportunity for the development to deliver BNG on-site and it is recommended that the following guidance is applied in order to achieve this:
- [Biodiversity Net Gain: Good Practice Principles for Development](#)
  - [BS 8683: 2021 Process for designing and implementing Biodiversity Net Gain Specification](#)
- 10.6 In order to maximise nature recovery and target habitat enhancement where it will have the greatest local benefit it is recommended that locally identified opportunities should be acknowledged and incorporated into the design of BNG (both on and off-site). This should include any locally mapped ecological networks and priority habitats identified by North Lincolnshire Council. In addition, Local Nature Recovery Strategies (LNRS) are a new mandatory system of spatial strategies for nature established by the Environment Act 2021 which will contribute to the national Nature Recovery Network (NRN). Work is currently underway to develop these strategies, which will identify strategic priorities for nature protection, recovery, and enhancement. Given the size, scale and opportunities afforded by the application it is therefore recommended that engagement with relevant local planning authorities, responsible authorities and statutory

consultees (including Natural England) is undertaken to align habitat enhancement through the development with any emerging plans and policies in relation to LNRS.

## 11. Soils and agricultural land quality

- 11.1 Soils are a valuable, finite natural resource and should also be considered for the ecosystem services they provide, including for food production, water storage and flood mitigation, as a carbon store, reservoir of biodiversity and buffer against pollution. It is therefore important that the soil resources are protected and sustainably managed. Impacts from the development on soils and best and most versatile (BMV) agricultural land should be considered. Further guidance is set out in the Natural England [Guide to assessing development proposals on agricultural land](#).
- 11.2 Natural England notes that the proposal site has the potential to be Best and Most versatile agricultural land. Consequently, the following issues should be considered and, where appropriate, included as part of the ES:
- The degree to which soils would be disturbed or damaged as part of the development.
  - The extent to which agricultural land would be disturbed or lost as part of this development, including whether any BMV agricultural land would be impacted.
- 11.3 This may require a detailed Agricultural Land Classification (ALC) survey if one is not already available. For information on the availability of existing ALC information see [www.magic.gov.uk](http://www.magic.gov.uk).
- Where an ALC and soil survey of the land is required, this should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The survey data can inform suitable soil handling methods and appropriate reuse of the soil resource where required (e.g. agricultural reinstatement, habitat creation, landscaping, allotments and public open space).
  - The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design/masterplan.
  - The ES should set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration in site design and master planning, and areas for green infrastructure or biodiversity net gain. The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise off-site impacts.
- 11.4 Further information is available in the [Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites](#) and The British Society of Soil Science Guidance Note [Benefitting from Soil Management in Development and Construction](#).

## 12. Air Quality

- 12.1 Air quality in the UK has improved over recent decades but air pollution remains a significant issue. For example, approximately 85% of protected nature conservation sites are currently in exceedance of nitrogen levels where harm is expected (critical load) and approximately 87% of sites exceed the level of ammonia where harm is expected for lower plants (critical level of 1µg)<sup>[1]</sup>. A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The Government's Clean Air Strategy also has a number of targets to reduce emissions including to reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030, to reduce emissions of ammonia against the 2005 baseline by 16% by 2030 and to reduce emissions of NO<sub>x</sub> and SO<sub>2</sub> against a 2005 baseline of 73% and 88% respectively by 2030. Shared Nitrogen Action Plans (SNAPs) have also been identified as a tool to reduce environmental damage from air pollution.
- 12.2 The planning system plays a key role in determining the location of developments which may give

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<sup>[1]</sup> [Report: Trends Report 2020: Trends in critical load and critical level exceedances in the UK - Defra, UK](#)



rise to pollution, either directly, or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The ES should take account of the risks of air pollution and how these can be managed or reduced. This should include taking account of any strategic solutions or SNAPs, which may be being developed or implemented to mitigate the impacts of air quality. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System ([www.apis.ac.uk](http://www.apis.ac.uk)).

#### *Construction phase air quality impacts*

- 12.3 Natural England notes that the Scoping Report states that the proposed development may impact on air quality in the local area due to dust emissions from demolition and construction works, and emissions from plant equipment. These factors have been scoped out pre-emptively based on the implementation of best practice control measures. The red line boundary of the proposed development site is immediately adjacent to the Humber Estuary SAC/Ramsar/ SSSI. We would therefore expect dust impacts from demolition and construction to be assessed further within the Habitats Regulations Assessment. Natural England advises that if these measures are presented as mitigation for potential impacts on designated sites, then they should be assessed in an appropriate assessment as part of the HRA.
- 12.4 Natural England notes that the road traffic assessment has scoped in construction impacts. Natural England advises that designated sites within 200m of a road which will experience a significant increase in traffic movements should be assessed for impacts due to air pollution from traffic. When undertaking an assessment of the potential impacts during the construction or operation phase of the development there will need to be clarification provided on which roads will be used to access the development site, and the number of predicted vehicle movements.
- 12.5 Natural England has produced guidance for public bodies to help assess the impacts of road traffic emissions to air quality capable of affecting European Sites. [Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001](#)
- 12.6 It is currently unclear if the sole viable method of bringing hydrogen on to site is via a proposed hydrogen pipeline, or whether it is also considered viable to bring hydrogen on to site via alternative methods of transport, such as road.
- 12.7 Ammonia emissions from road traffic could make a significant difference to nitrogen deposition close to roads. As traffic composition transitions toward more petrol and electric cars (i.e., fewer diesel cars on the road) – catalytic converters may aid in reducing NOx emissions but result in increased ammonia emissions – therefore consideration of the potential for impacts is needed (see [https://www.aqconsultants.co.uk/news/february-2020-\(1\)/ammonia-emissions-from-roads-for-assessing-impacts](https://www.aqconsultants.co.uk/news/february-2020-(1)/ammonia-emissions-from-roads-for-assessing-impacts)).
- 12.8 There are currently two models which can be used to calculate the ammonia concentration and contribution to total N deposition from road sources. One of these models is publicly available and called CREAM ([Air Quality Consultants - News - Ammonia Emissions from Roads for Assessing Impacts on Nitrogen-Sensitive Habitats \(aqconsultants.co.uk\)](#)), and there is another produced by National Highways.

#### *Operational phase air quality impacts*

- 12.9 Natural England advises that an air quality assessment should be undertaken of both the hydrogen and natural gas processes which the Proposed Development is capable of, with a view to establishing the potential impacts on designated sites.
- 12.10 Information on air pollution modelling, screening and assessment can be found on the following websites:
  - SCAIL Combustion and SCAIL Agriculture - <http://www.scail.ceh.ac.uk/>

- Ammonia assessment for agricultural development <https://www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit>
- Environment Agency Screening Tool for industrial emissions <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>
- Defra Local Air Quality Management Area Tool (Industrial Emission Screening Tool) – England <http://www.airqualityengland.co.uk/laqm>

### **13. Water quality**

- 13.1 The planning system plays a key role in determining the location of developments which may give rise to water pollution, and hence planning decisions can have a significant impact on water quality, and land. The assessment should take account of the risks of water pollution and how these can be managed or reduced.

### **14. Climate Change**

- 14.1 The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 174), which should be demonstrated through the ES.

From: [redacted] on behalf of [Town Planning LNE](#)  
To: [Keadby Hydrogen](#)  
Subject: EN0110001 - Keadby Hydrogen Power Station Project  
Date: 23 May 2024 18:15:42  
Attachments: [image001.png](#)

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OFFICIAL

Network Rail Consultation Response

FAO:	Planning Inspectorate
Date:	23/05/2024
Application reference:	EN0110001
Proposal:	Scoping opinion for Keadby Hydrogen Power Station Project
Location:	Keadby Hydrogen Power Station Project

Thank you for your recent correspondence relating to the above scoping opinion.

Network Rail own, operate and develop Britain's railway infrastructure. Our role is to deliver a safe and reliable railway. All consultations are assessed with the safety of the operational railway in mind and responded to on this basis.

With reference to the protection of the railway, the Environmental Impact Assessment must include consideration of the impact of the scheme upon operational railway safety. It must include a Transport Assessment to identify any HGV traffic/haulage routes associated with the construction and operation of the scheme that may utilise railway assets such as bridges and level crossing during the construction and operation of the site.

In addition, should any part of the scheme require the use of, or access across railway land including the operational railway itself, the developer will be required to obtain the necessary agreements and consents (easement agreements, licences etc) from Network Rail going forward. We would strongly recommend that they engage with us early in the development of their scheme to ensure such matters are resolved well in advance.

**Summary**  
Network Rail would be grateful if the comments above are considered by The Planning Inspectorate. Network Rail would welcome further discussion and negotiation with The Planning Inspectorate and SSE Hydrogen Developments Limited in relation to the proposed development as required going forward. If you have any questions or require more information in relation to the above please let me know.

Kind regards



**Aaron Walsh**  
Town Planning Technician  
Network Rail Property (Eastern Region)  
George Stephenson House, Toft Green, York, YO1 6JT

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\*\*\*\*\*

**From:** [REDACTED]  
**To:** [Keadby Hydrogen](#)  
**Subject:** EN0110001 - Keadby Hydrogen Power Station Project  
**Date:** 21 May 2024 15:52:07  
**Attachments:** [image001.jpg](#)

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Good Morning,

I am writing on behalf of North East Lincolnshire Council Development Managements Services in response to the scoping consultation dated 1<sup>st</sup> May 2024

Having reviewed the documentation, the local planning authority would request that details of trips and transportation links during construction and operation through North East Lincolnshire should be included within the EIA scoping of this development, if applicable. The Local Planning Authority have no other comments to make.

Should you have any questions please do not hesitate to contact me.

Kind Regards,

**Owen Toop** MSc Urban Planning MRTPI

Senior Town Planner

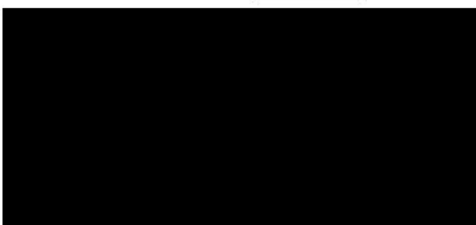
For and Behalf of Development Management Services



[REDACTED]

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Your Ref: EN0110001  
Our Ref: 65857

Ms Stephanie Newman  
Senior EIA Advisor  
The Planning Inspectorate  
Environmental Services, Operations Group 3  
Temple Quay House  
2 The Square  
Bristol BS1 6PN

21<sup>st</sup> May 2024

Dear Ms Newman

**Nationally Significant Infrastructure Project  
Keadby Hydrogen Power Station, EN0110001  
Scoping Consultation Stage**

Thank you for including the UK Health Security Agency (UKHSA) in the scoping consultation phase of the above application. ***Please note that we request views from the Office for Health Improvement and Disparities (OHID) and the response provided below is sent on behalf of both UKHSA and OHID.*** The response is impartial and independent.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Having considered the submitted scoping report we wish to make the following specific comments and recommendations:

## **Environmental Public Health**

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES). We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. UKHSA and OHID's predecessor organisation Public Health England produced an advice document *Advice on the content of Environmental Statements accompanying an application under the NSIP Regime*<sup>1</sup>, setting out aspects to be addressed within the Environmental Statement<sup>1</sup>. This advice document and its recommendations are still valid and should be considered when preparing an ES. Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.

## **Recommendation**

Our position is that pollutants associated with road traffic or combustion, particularly particulate matter and oxides of nitrogen are non-threshold; i.e, an exposed population is likely to be subject to potential harm at any level and that reducing public exposure to non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure) and maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

## **Hydrogen and Carbon Capture Technology**

It is noted that the applicant has proposed this development as an alternative to the consented Keadby 3 Carbon Capture and Storage (CCS) enabled power station. The proposed development is expected to be fuelled by hydrogen gas, however the applicant anticipates that the development will be initially fuelled by natural gas until a commercially viable hydrogen supply is in place. It is not clear from the Scoping Report if there is intention to use carbon capture technology during the natural gas operational phase.

---

1

<https://khub.net/documents/135939561/390856715/Advice+on+the+content+of+environmental+statements+accompanying+an+application+under+the+Nationally+Significant+Infrastructure+Planning+Regime.pdf/a86b5521-46cc-98e4-4cad-f81a6c58f2e2?t=1615998516658>

### Recommendation

We recommend clarification of the use of carbon capture technology during the natural gas operational phase of the site and consideration of the associated emissions. We also recommend the consideration of emissions from the operation of the site using natural gas with or without carbon capture technology, and hydrogen as the fuel source.

### **Electric and Magnetic Fields (EMF)**

It is noted that the current proposals do not appear to consider possible health impacts of EMF.

### Recommendation

We request that the ES clarifies this and if necessary, the proposer should confirm either that the proposed development does not impact any receptors from potential sources of EMF; or ensure that an adequate assessment of the possible impacts is undertaken and included in the ES. Further details are available in the reference document - Advice on the content of Environmental Statements accompanying an application under the Nationally Significant Infrastructure Planning Regime <sup>1</sup>.

### **Human Health and Wellbeing - OHID**

This section of OHID's response, identifies the wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects. OHID has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. The four themes are:

- Access
- Traffic and Transport
- Socioeconomic
- Land Use

Having considered the submitted Scoping Report, OHID wish to make the following specific comments and recommendations.

### **Hydrogen gas manufacture, storage and distribution network – Community risk perception / understanding of risk.**

The broad definition of health used by the World Health Organisation (WHO), includes reference to mental health. Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. A scheme of this scale and nature has impacts on the over-arching protective factors, which are:

- Enhancing control
- Increasing resilience and community assets
- Facilitating participation and promoting inclusion.

The scoping report does not make reference to the potential for local public concern through understanding of risk / risk perception. Previous hydrogen distribution schemes have scoped-in community concern over hydrogen safety, due to this being a relatively new industry and the potential for major incidents.

Communities in the near vicinity of the scheme will receive targeted communications as part of the normal consultation process. Communication programmes should provide a source of clear and objective information to increase knowledge and awareness. Consultations should also use the opportunity to assess levels of local concern, which can then be used to assess significance of effects and inform community consultation and information.

### Recommendation

The ES should consider potential effects on mental health through risk perception / understanding of risk posed by the manufacture, storage and transportation of hydrogen and other hazardous substances.

When estimating community anxiety and stress in particular, a qualitative assessment may be most appropriate. Robust and meaningful consultation with the local community will be an important mitigation measure, in addition to informing the assessment and subsequent mitigation measures. This may involve conducting resident surveys but also information received through public consultations, including community engagement exercises. The Mental Well-being Impact Assessment Toolkit (MWIA) contains key principles that should be demonstrated in a project's community engagement and impact assessment. We would also encourage consultation with the local authority's public health team, who are likely to have Health Intelligence specialists who will have knowledge about the availability of local data.

The Mental Well-being Impact Assessment Toolkit (MWIA)<sup>2</sup>, could be used as a methodology. The assessment should identify vulnerable populations and provide clear mitigation strategies that are adequately linked to any local services or assets.

Baseline indicators the assessment would benefit from including social cohesion/connectedness, satisfaction with local area and quality of life indicators owing to their established links to mental health and wellbeing.

In terms of sources, we would draw your attention to the following:

- [PHE Fingertips – Mental Health and Wellbeing JSNA](#)
  - Area profiles with various indicators on common mental disorders (including anxiety) and severe mental illness which can be benchmarked with other local areas as well as regional and national data

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<sup>2</sup> [Mental Wellbeing Impact Assessment Toolkit](#), (National MWIA Collaborative (England), 2011) - A toolkit with an evidence-based framework for improving well-being through projects.



- [Office for National Statistics – Wellbeing Indicators](#)
  - Range of datasets related to wellbeing available including young people's wellbeing measures, personal wellbeing estimates and loneliness rates by local authority

### **Socio-economics - Housing affordability and availability**

The report proposes to scope out housing from the population and human health chapter, but without any justification. The report does not recognise a requirement for temporary living accommodation within reasonable commuting distance of the project such as rented housing, hotels, guest houses or bed and breakfast establishments/lodgings.

There is a potential for significant numbers of non-home based construction workers. The already consented Keadby 3 Carbon Capture and Storage (CCS) enabled power station included impact on local affordable home supply within the supporting impact assessments. The assessment for this scheme should ensure the original findings are still correct. Generally, in North Lincolnshire, housing benefit claimants are slightly more likely to access housing through the private rented sector, compared to the regional and national averages. Evidently therefore, the private rented sector also plays an important role in meeting affordable housing need in North Lincolnshire<sup>3</sup>.

Significant number of non-home based construction workers could foreseeably have an impact on the local availability of affordable housing. Those residents looking for low cost affordable homes will have the least capacity to respond to change (for example, where there may be an overlap between construction workers seeking accommodation in the private rented sector, and people in receipt of housing benefit seeking the same lower-cost accommodation). This impact could also be compounded by the cumulative accommodation demands from a number of large developments.

### **Recommendation**

The peak numbers of construction workers and non-home based workers should be established and a proportionate assessment undertaken on the impacts for housing availability or affordability and impacts on any local services.

Any cumulative effect assessment should consider the impact on demand for housing by construction workers and the likely numbers of non-home based workers required across all schemes.

Yours sincerely,

On behalf of UK Health Security Agency

*Please mark any correspondence for the attention of National Infrastructure Planning Administration.*

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<sup>3</sup> [North Lincolnshire Local Housing Needs Assessment. September 2019](#)

Officer: Matthew Gillyon

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28/05/2024

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# North Lincolnshire Council

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DN15 6NL

## **Application by SSE Hydrogen Developments Limited (the applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station Project (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested.**

**Officer:** Matthew Gillyon

Thank you for your letter dated 01 May 2024 giving North Lincolnshire Council (NLC) the opportunity to comment on the Application by SSE Hydrogen Developments Limited (the applicant) for an Order granting Development Consent for the Keadby Hydrogen Power Station Project (the Proposed Development).

I have had the following comments back from the consultees within North Lincolnshire Council.

### **Economic Development**

The proposed scope of assessments for the Socio-Economic chapter (6.9) are agreed in principle as relevant and proportional to the proposed development with the following points.

- Information should be provided on the creation of direct and/ or direct employment to include scope to assess possibilities for apprenticeships that could be create and / or continued through the proposed development.
- Is it feasible to show how the proposed development could offer opportunities to local suppliers and whether the business intends to hold any supplier events locally to give that opportunity further benefits to the localised economy.



## **Highways**

Having reviewed the submitted scoping report and are satisfied with the approach set out to assessing the impact of traffic and transport. Additional comments are also made:

All construction traffic should access the site via the existing entrance on the A18. Highways would not be supportive of construction traffic travelling along the B1392 through Keadby. This routing was used during the construction of Keadby 2 and agreed as part of the DCO for Keadby 3 A temporary 40 mph speed limit has previously been implemented at the site entrance on the A18 and consideration should be given to this again. It is worth noting that whilst we would be supportive of a temporary 40 mph speed limit and would not support any requests for a permanent reduction.

The DCO for Keadby 3 included the provision for improvements to the site access on the A18 to create a ghost island as the intention was to route all construction and operational traffic through this junction and avoid the need for any operational traffic along the B1392 through Keadby. It would be beneficial to know what the intentions are regarding this as part of these proposals.

A recommendation that the applicant agree the scope of the Transport Assessment with North Lincolnshire Council prior to starting any work.

## **Archaeology**

The proposals have the potential to impact designated and non-designated heritage assets within the site and surroundings and Cultural heritage is scoped into the EIA. It is anticipated that the cultural heritage assessments will closely follow those undertaken for the alternative consented Keadby 3 Power Station.

For clarity, evaluation has not confirmed there was no evidence for the Romano-British settlement (MLS17311) (Scoping Report 2.46 & 6.8.1); Archaeological trial trenching maybe appropriate on this site dependent on the current proposals.

The ES chapter on cultural heritage should comprise the following:

- Desk based research including consultation of the Historic Environment Record and other sources and
- Results of pre-application archaeological field evaluation as appropriate
- Assessment of significance of all heritage assets affected by the development

A Heritage and Archaeological Mitigation Strategy should be submitted with the ES setting out appropriate measures to avoid harm, enhance and conserve the heritage assets and their settings based on the heritage assessment and results of any additional evaluation.

The Heritage and Archaeological Mitigation Strategy should be appended to the CEMP. The mitigation strategy agreed for the consent Keadby 3 main site comprises a programme of archaeological monitoring and recording during construction groundworks, geoarchaeological deposit modelling and paleoenvironmental analysis of retained samples.



It is noted that the hydrogen supply pipeline to the site which is likely to affect other known and yet to be identified archaeological sites is not included in this application and will require a separate process of evaluation and assessment.

### **Conservation**

The scoping report proposes assessment of cultural heritage is to be scoped in. Details regarding this is set out in Chapter 6.8 of the report provided. They note the new assessment will draw upon the previous desk-based assessment produced in the preparation of the Keadby 3 Power Station Development Consent Order. With regards assessment of built heritage assets, it is considered the approach proposed for assessment would be acceptable and sufficient to inform the decision making process. The assessment of significance undertaken as part of the EIA should be utilised to inform the design process to ensure the setting of built heritage assets affected by the proposals are preserved in line with relevant legislation, as well as national and local planning policy through mitigation etc.

### **Ecology**

The applicant has identified that The Proposed Development is a 'Schedule 1' development under the EIA Regulations as it constitutes "Thermal power stations and other combustion installations with a heat output of 300 megawatts or more". EIA is compulsory for Schedule 1 developments given the type and/or the scale of the development is likely to have the potential for significant effects on the environment.

### **Overall Project Rationale**

I support the principle of low carbon electricity generation, which will help to deliver carbon reduction policies set out in the NPPF, UK Clean Growth Strategy, Environment Bill, Humber Clean Growth Local White Paper, North Lincolnshire Core Strategy and new Local Plan.

### **Scoping**

I would expect the scope and content of the environmental statement (ES) to be guided considerably by the findings, consultees' comments and Examining Authority's written questions for the Keadby 3 project and, to a lesser extent, the recent haul road planning application. For example, viewpoint requirements for the Landscape and Visual Impact Assessment (LVIA) are likely to be similar. and comments of previous Habitats Regulations Assessments (HRAs) should be taken into account.

I note that the hydrogen supply pipeline route is likely to be delivered by a third party and is thus not included in the scope of the EIA. This is understandable, though it should be noted that such a development is likely to have significant impacts of its own, given the presence of priority habitats and species and internationally, nationally and locally important sites all around the proposed power station.



## **Landscape**

Landscape and visual impacts need to be considered in terms of the adopted Landscape Assessment and Guidelines and the Countryside Design Summary. I also recommend the use of the Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3, 2013), produced by the Landscape Institute and the Institute of Environmental Management & Assessment.

Core Strategy Spatial Objective 10, policies CS5 and CS16 and Saved Local Plan Policies LC7 and RD2 should also be considered.

The Adopted Landscape Assessment and Guidelines document (SPG5) gives the following guidance for this area (relevant excerpts only)

### **Industrial Landscape – Burringham, Gunness, Keadby**

#### **Landscape Strategy:**

Aim to minimise the continual development of this industrial area and reduce the existing impacts on the surrounding landscape through enhancement of the peripheral areas.

#### **Landscape Guidelines:**

Efforts should seek to contain this area; any new industrial developments should be suitably sited to minimise impact, both visual and environmental on the surrounding landscape. New industrial constructions should be built from light materials that dissipate with backdrop over distant views.

Seek to minimise immediate impacts of industrial development by use of mitigation planting close to the development; mitigation of wider impacts may damage open character. New planting should look to screen components built from heavy and visually intrusive materials.

Tree planting should be encouraged around settlements to improve their eventual assimilation with the surrounding landscape. Inappropriate planting should be actively discouraged.

### **Flat Drained Farmland – Althorpe, Amcotts, East and West Butterwick, Owston Ferry**

#### **Landscape Strategy:**

Enhance the remaining landscape structure, ensuring that future developments in farming practice do not continue to weaken the area's character, whilst conserving pockets of riverside strip farming. Where possible enhance wildlife potential.

#### **Landscape Guidelines:**

Refer to Axholme area historic landscape character zones drawing to determine appropriate approach in detail.

In places hedgerow and occasional tree planting should be encouraged to reinforce existing landscape structure without damaging the open characteristics. Smaller areas of tree planting should be targeted towards farmstead areas softening their presence in the landscape, reflecting the pattern of linear shelterbelts already common to the area. Planting is also appropriate around settlements with the exception of riverside strip farming areas.

New hedgerow planting should look to reinstate historic field boundaries in areas where hedgerow removal is still in evidence. In particular, historic landscape zone



boundaries should be reinstated to highlight the differences between medieval strip farming, Early Enclosed Land and Recently Enclosed Land.

Any new planting should reflect existing in species, size, and regularity to create consistency throughout the character area. Planting of inappropriate species within historic landscape areas should be actively discouraged.

New built development within the open countryside should be sited within existing farmstead and agroindustrial areas, reflecting the local vernacular and being integrated with the surrounding area by a competent landscape enhancement scheme.

Avoid hedgerow planting along roadside areas, as this would be detrimental to the landscape's open character. There is evidence of such planting south of Amcotts. Intermittent roadside tree planting in existence north of Amcotts is a more appropriate use of planting that will enhance the landscape structure without damaging its character.

Where possible areas of riverbank and peripheral rough grazing should be managed and planted to encourage wildlife and ecological potential. Ensure maintenance and survival of linear drainage ditches and dikes. Where possible a diverse range of emergent plant species should be encouraged to create new and important ecological and wildlife habitats.

### **Habitats Regulations**

The application site lies immediately adjacent to the Humber Estuary Special Area for Conservation (SAC) and Ramsar Site. The Planning Inspectorate, as competent authority, will need to carry out a Habitats Regulations Assessment (HRA) of the project. In accordance with government guidance, "The competent authority will require the applicant to provide such information as may reasonably be required to undertake the assessment." In this case, the information required will include, but not be limited to:

- A plan, showing the location of the proposals in relation to the boundaries of the Humber Estuary SAC, SPA and Ramsar site.
- A habitat survey of the application site and surrounding areas, with particular reference to habitat features that may support breeding, wintering or passage birds associated with the Humber Estuary SPA and Ramsar Site.
- Recent wintering and passage survey information sufficient to assess the usage of the application site, adjacent land and adjacent SSSI units by birds associated with the Humber Estuary SPA and Ramsar Site. The recent haul road planning application was determined without wintering bird survey information being provided, as it was possible to demonstrate that the land affected had very little potential to support SPA/Ramsar waterbirds in significant numbers. However, Natural England did express concern about the lack of survey data. Judging from figure A.1.2, this larger application will affect large, open fields with the potential to support species such as curlew, lapwing and golden plover in significant numbers. In my view, it would be prudent to carry out wintering and passage bird surveys for at least one year. Natural England has provided advice on survey standards for recent planning applications in North Lincolnshire- for example PA/2023/1981.



- Details of potential impact pathways, considered alone and in combination with other plans and projects. Pathways include air quality (including NOx, N deposition and ammonia), noise and water resources.
- Assessment of the potential for entrainment and other impacts on river and sea lampreys.
- Details of other matters considered in the HRA for Keadby 3.
- Details of any impact avoidance measures that are a) integral to the project, or b) proposed to avoid harm to the SAC and Ramsar site.

In terms of HRA screening for likely significant effect, government advice states that, “At this stage, you should not consider any mitigation measures included by the proposer for the purpose of avoiding or minimising risk to a European site. These mitigation measures need to be considered at the appropriate assessment stage.” Potentially, this could include the “impact avoidance measures” described in the scoping report. Therefore, such measures should be clearly described in the submitted ES.

### **Protected and Priority Species**

I have considered this application in accordance with Natural England's standing advice for protected species-

<http://www.naturalengland.org.uk/ourwork/planningtransportlocalgov/spatialplanning/standingadvice/default.aspx>.

I agree that surveys for reptiles and great crested newts can be scoped out, based on the information provided.

I agree with the survey proposals for:

- Habitat/botanical survey
- Aquatic invertebrates
- Badgers
- Bats
- Breeding birds
- Fish
- Aquatic & terrestrial flora
- Otter
- Water vole.

### **Biodiversity Net Gain**

The submitted Scoping Report notes that:

*“The BNG regime for planning applications requires that applicants submit a baseline BNG assessment with their planning application. A full BNG assessment, which would also consider the measures needed to achieve 10% BNG, is not proposed to accompany the DCO application given that this is only mandatory for planning applications after determination as a pre-commencement requirement.”*

Whilst this is technically correct, I would strongly recommend the applicant to consider the measures needed to achieve 10% BNG at the application stage, to reassure consultees that net gain is deliverable practically and locally in accordance



with the BNG hierarchy and local strategic priorities. Previous attempts at habitat management at this site have been hampered by the failure to consider gas pipelines, for example, at an early stage, with the result that proposals had to be amended at a later stage.

### **Cumulative and in-combination assessments.**

In addition to the various power station proposals, it will be necessary to consider proposed solar farm developments that could affect wintering and passage waterbirds. Other plans and projects that could lead to increased impacts of NO<sub>x</sub>, N deposition and ammonia on designated sites will also need to be considered in combination.

### **Environmental Protection:**

The Proposed Development is expected to comprise of one Combined Cycle Gas Turbine (CCGT) unit and associated infrastructure. The Proposed Development will be designed to run on 100% hydrogen, with the ambition that this would be the fuel from the start of operation. However, it is currently anticipated that the hydrogen supply chain required for this may not be available at the start of operation, in which case the Proposed Development would also need to be able to operate using 100% natural gas until such time as a commercially viable hydrogen supply chain option becomes available.

The Proposed Development is subject to ongoing technical studies, but the CCGT generating station is expected to achieve an electrical output capacity of up to 910 megawatts (MW).

The CCGT generating station, and associated infrastructure is to be located on land within the existing Keadby Power Station site that is under the control of the Applicant. The proposed electricity transmission, cooling water and natural gas and hydrogen supply infrastructure are predominantly located on land under the control of the Applicant, although they may cross other third-party land.

I can confirm that this department has the following comments to make.

### **Air Quality**

This department has reviewed the following document:

· ARUP - The Keadby Hydrogen Power Station Project Environmental Impact Assessment Scoping Report. Dated 30 April 2024

Section 6.1 of the above document relates to Air Quality. The following comments relate to human health only.

The following topics have been scoped into any future assessment on air quality:

- Emission of pollutants to air from vehicles associated with construction and operation;
- Construction dust and mobile plant exhaust emissions generated during construction; and
- Emission from the operational phase of the Proposed Development i.e. release of pollutants to air from the CCGT stack during operation.



### **Construction - Vehicle Movements**

The Proposed Development would introduce additional vehicle movements in the study area that require screening to determine the potential for impacts on local air quality. The Institute of Air Quality Management (IAQM) guidance (IAQM, 2017) sets out indicative criteria to trigger the initiation of an assessment of air quality of a proposed.

*This department agrees with this approach.*

### **Construction - Dust and Fugitive Emissions**

The report states:

“The construction of the Proposed Development may impact on air quality in the local area due to potential fugitive emissions of dust from demolition and construction works, and emissions from plant equipment. However, with the implementation of best practice control measures any impacts on dust soiling, human health and biodiversity will be negligible and are therefore scoped out.”

*This department would expect an assessment of dust impacts from the construction phase to be assessed in accordance with ‘IAQM – Guidance on the Assessment of Dust from Demolition and Construction’ for a development of this magnitude.*

### **Operation – Vehicle Movements**

The report states:

“The Proposed Development is unlikely to result in a significant increase in operational traffic to the Site, in relation to the IAQM and DMRB screening criteria, and operational traffic has therefore been scoped out of the assessment. Operational vehicle movements will similarly be screened against the EPUK/IAQM criteria for outside an AQMA to ensure that the potential for significant effects is considered.”

*This department agrees that to enable vehicle movements to be screened out, this must be compared to appropriate IAQM/EPUK Guidance.*

### **Operation – Emissions**

An atmospheric impact assessment will be undertaken for the main point source emissions, utilising air dispersion modelling to assess the impact to air quality. The study will be desk-based and will assess the predicted concentrations of emitted pollutants that are potentially hazardous to human health at identified receptors (such as residential homes, schools, designated nature sites) within the study area, as well as the potential effect on the nearby AQMA.

The modelling will be based on Emission Limit Values (ELV) set by the IED, the BAT Achievable Emission Levels or from the Environment Agency’s draft Guidance on Emergency Technologies guidance on Oxides of Nitrogen Emission Limit Values (ELVs) for Combustion of Hydrogen as appropriate based on the plant design. The modelling and assessment will be undertaken with regard to published government and non-governmental guidance, as appropriate.

*This department agrees with the above approach and would recommend agreeing the scope of assessment with relevant stakeholders in advance.*



## Noise

This department has reviewed the following document:

· ARUP - The Keadby Hydrogen Power Station Project Environmental Impact Assessment Scoping Report. Dated 30 April 2024

Section 6.2 of the above document relates to Noise.

The Proposed Development will be located within and in the vicinity of existing industrial facilities, including Keadby 1 Power Station, Keadby 2 Power Station, the 400kV National Grid substation and the operational Keadby Windfarm. There are residential receptors which have the potential to be impacted by noise and vibration emissions from the construction and operation of the Proposed Development and its proposed utility connection corridors.

A baseline noise survey was undertaken as part of ongoing work related to Keadby 3 DCO, consisting of a series of continuous unattended noise measurements at residential receptors within the vicinity of Keadby Power Station, during May 2023. The same noise sensitive receptors (NSR's) will be considered in this assessment and the baseline sound levels measured in May 2023 will be used in the assessment. It is proposed that consultation with key stakeholders including North Lincolnshire Council will be undertaken in order to confirm this approach.

*This department agrees with this approach.*

The following topics will be scoped into any future assessment on noise:

- Construction and decommissioning noise and vibration impacts
- Construction traffic on public roads; and
- Operational noise impacts from the Proposed Development

## Construction Noise

Noise levels associated with enabling and construction works will be calculated (at chosen sensitive receptors) using the data and procedures given in BS 5228. The assessment of construction works will include the electrical, water and gas connections.

*This department agrees with this approach.*

## Construction Traffic

The construction of the Proposed Development may have an impact on traffic flows on local roads around the Site. The change in road traffic noise levels, at a selection of relevant receptors, will be predicted using the standard methodology outlined in the CRTN. The predictions will be based on baseline and with-development traffic data provided as part of the proposed traffic and transport assessment (see Traffic and Transport).

*This department agrees with this approach.*

## Operation - Vibration

The report states:

“Based on the distance between the Proposed Development Site boundary and the nearest receptors, significant vibration impacts associated with operational activities



are considered unlikely, although they will still be considered as part of the EIA and their exclusion from detailed analysis, if appropriate, justified with explanation taking into account Site information and published guidance.”

*This department agrees that justification for this statement will be required.*

### **Operation – Noise**

The operational noise impact of the Proposed Development will be predicted using computer noise modelling software, based on information on plant layout, and the operating conditions and the levels of noise generated by plant items and vehicles. The significance of the noise impact of the Proposed Development during operation will be assessed using the method given in BS 4142 and potentially World Health Organisation (WHO) guidance (WHO, 1999, 2009 and 2018). Further details of the approach will be discussed and agreed as required with the local authority.

Additionally, the potential for tonal, impulsive and irregular characteristics of the noise emissions from the Proposed Development will be considered and assessed against the prevailing noise climate at the NSR.

*This department agrees with the above approach and would recommend agreeing the scope of assessment with relevant stakeholders in advance.*

### **Operational Traffic**

The report states:

“Taking into consideration the low volumes of operational transport movements and based upon experience of similar projects, it is considered unlikely that trip generation during the operational phase would generate significant road traffic noise and vibration effects and it is proposed that operational traffic noise and vibration effects are screened out, provided that such operational traffic levels are below the screening criteria set within published guidance including ‘Calculation of Road Traffic Noise’ (Department for Transport, 1988).”

*This department agrees that justification for this statement will be required.*

### **Contaminated Land**

This department has reviewed the following document:

· ARUP - The Keadby Hydrogen Power Station Project Environmental Impact Assessment Scoping Report. Dated 30 April 2024

Section 3.5 of the report confirms the following:

“The Proposed Development would be located within the curtilage of the Keadby Power Station site. The ground conditions vary across the Site depending on their historical use. Given the nature of the former site operations in some parts of the Site, it is known from the results of a ground investigation recently undertaken in relation to Keadby 3 Power Station that some localised subsurface contamination is present. Any additional soil or groundwater investigation required for the Proposed Development would be undertaken prior to commencing construction. Parts of the Main Site would need to be raised for flood protection so fill material will need to be imported for this purpose.



*This department has not received or reviewed the ground investigation referred to and will await submission of the ES when further comments will be provided.*

Section 6.6. of the report confirms the following:

“A desk study was carried out in May 2021 and the report acknowledges that it is now three years old and also considered a slightly different site area. The report has confirmed that a Technical Note will be prepared to highlight any key differences and updates that need to be accounted for in the Keadby Hydrogen geology, hydrogeology and land contamination assessment. This will include for a review of updated site sensitivity data as well as relevant site investigations undertaken since completion of the May 2021 desk-based assessment. A Baseline report will also be incorporated into the addendum Technical Note.”

*This department agrees with the recommendations and will await submission of the addendum Technical Note when further comments will be provided.*

**Cllr L Yeadon and Cllr M Ali**

I am concerned that the Proposed Development will be designed to run on 100% hydrogen, with the ambition that this would be the fuel from the start of operation and that it is currently anticipated that the hydrogen supply chain required for this may not be available at the start of operation, in which case the Proposed Development would also need to be able to operate using 100% natural gas until such time as the hydrogen supply is available.

Also, there are a large number of issues highlighted as requiring further investigation/scoping such as those highlighted on page 146 of the report.

These unknown factors make it difficult to make an informed judgement at this time but I am very concerned that development does not progress until these matters are addressed particularly using natural gas at a time when we are aiming for a greener, carbon neutral economy.

If you require any further information, please don't hesitate to contact me

Kind Regards

Matthew Gillyon