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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_x, 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

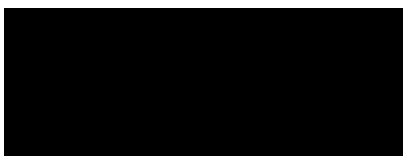
I am concerned that the Proposed Development will be designed to run on 100% hydrogen, with the ambition that this would be the fuel from the start of operation and that it is currently anticipated that the hydrogen supply chain required for this may not be available at the start of operation, in which 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
Senior Planning Officer
North Lincolnshire Council