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## 1.0 INTRODUCTION

### 1.1 Background

1.1.1 This Preliminary Environmental Information (PEI) Report has been prepared by AECOM Ltd (AECOM) on behalf of H2 Teesside Limited (the Applicant), a bp company, in relation to a proposed DCO Application (the Application) to be made to the Secretary of State (SoS) for the Department of Energy Security and Net Zero (DESNZ) seeking a Development Consent Order (DCO) for the construction, operation (including maintenance where relevant) and decommissioning of H2Teesside. It has been prepared to inform statutory consultation with members of the public and other stakeholders, based on the preliminary environmental information available at this time.

1.1.2 H2Teesside is an approximately 1.2-Gigawatt Thermal (GWth) Carbon Capture & Storage (CCS) enabled Hydrogen Production Facility and associated connections (the Proposed Development) on land in Teesside in Redcar and Cleveland, Stockton-on-Tees, and Hartlepool (hereafter referred to as the Proposed Development Site), see Figure 1-1: Proposed Development Site Location Plan (PEI Report, Volume II).

1.1.3 This PEI Report presents:

- a description of the Proposed Development;
- the likely significant environmental effects of its construction, operation (including maintenance) and decommissioning based on the preliminary environmental information available at the time of writing;
- the measures identified to avoid, prevent or reduce and, if possible, offset adverse effects; and
- reasonable alternative sites, technologies and layouts considered to date, and an indication of the primary reasons for selecting the option chosen, taking into account the effects of the Proposed Development on the environment.

1.1.4 This PEI Report also includes a Non-Technical Summary (NTS) (PEI Report, Volume IV) of the information provided in this PEI Report.

1.1.5 This PEI Report is provided to support consultees in developing an informed view of the likely significant environmental effects of the Proposed Development.

1.1.6 The Proposed Development Site and its surroundings are described in Chapter 3: Description of the Existing Environment (PEI Report, Volume I). A more detailed description of the Proposed Development (at this preliminary assessment stage) is provided in Chapter 4: Proposed Development (PEI Report, Volume I).

### 1.2 The Applicant

1.2.1 The Applicant is H2 Teesside Limited, a bp company, who will be the lead developer and operator for the Hydrogen Production Facility (the 'Production Facility') and new hydrogen pipelines. The Proposed Development will support the decarbonisation of

UK-produced natural gas in Teesside for use in industrial applications, thus helping to achieve national targets in relation to net zero. It will also be a key contributor to restoring manufacturing jobs in the Tees Valley.

- 1.2.2 The Proposed Development will export carbon dioxide (CO<sub>2</sub>) to the Northern Endurance Partnership (NEP) offshore storage facility via NEP infrastructure on the adjacent Net Zero Teesside (NZE) site, including the high-pressure compression facility and the CO<sub>2</sub> export pipeline. At the time of writing, a decision on the NZE application for development consent is anticipated on the 14<sup>th</sup> September 2023, and it is expected that NEP (offshore) consultation will begin before the end of 2023.
- 1.3 The Proposed Development
- 1.3.1 The Proposed Development comprises the construction, operation (including maintenance) and decommissioning of a an approximately 1.2 GWth Production Facility with associated Carbon Capture, a hydrogen transport pipeline network and utility connections, on land in Redcar and Cleveland, Stockton-on-Tees, and Hartlepool on Teesside.
- 1.3.2 The Proposed Development comprises the Production Facility together with the hydrogen gas (H<sub>2</sub>) pipeline network to deliver low carbon H<sub>2</sub> to offtakers who may potentially use the H<sub>2</sub> in the future, and the CO<sub>2</sub> export, natural gas, electricity, water, oxygen (O<sub>2</sub>) and nitrogen (N<sub>2</sub>) connections required for the facility to operate. The proposed Production Facility will produce low carbon hydrogen which is compliant with the UK Government's Low Carbon Hydrogen Standard (DESNZ, April 2023) which defines what constitutes 'low carbon hydrogen' up to the point of production. The intent of the standard is to ensure new low carbon hydrogen production makes a direct contribution to the UK's greenhouse gas (GHG) emissions reduction targets.
- 1.3.3 The Proposed Development is subject to ongoing technical studies; however, it is expected to comprise the Production Facility with a design capacity of up to 1.2 GWth Lower Heating Value (LHV), across two phases of development (up to 600 Megawatt thermal (MWth) per phase).
- 1.3.4 The Production Facility and associated infrastructure which form part of the Proposed Development will be located on the 'Main Site'. The Main Site is proposed to be located on land formerly part of the Redcar Steelworks.
- 1.3.5 The proposed hydrogen transport pipelines and other connections (the 'Connection Corridors') will cross other third-party land where required. Together, the Main Site and Connection Corridors are referred to as the 'Proposed Development Site'. The Proposed Development Site is shown on Figure 1-1: Site Location Plan (PEI Report, Volume II). The location of the Main Site, Hydrogen Pipeline Corridor and other indicative Connection Corridors are shown on Figures 4-1 to 4-8 (PEI Report, Volume II).
- 1.3.6 This PEI Report and the subsequent Environmental Statement (ES) which will accompany the DCO Application relate to development solely within the Proposed Development Site.



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- 1.4 The Development Consent Process
- 1.4.1 Under the Planning Act 2008 (PA 2008), development consent can be granted in the form of a DCO for certain types of 'Nationally Significant Infrastructure Projects' (NSIPs) by the relevant SoS – in the case of energy infrastructure projects this is the SoS for DESNZ.
- 1.4.2 Section 14 "*Nationally significant infrastructure projects: general*" of the PA 2008 confirms the types of projects that are NSIPs, which require a DCO. Section 14 does not include the construction and operation of H<sub>2</sub> production facilities but does include the "*construction of a pipe-line other than by a gas transporter*" that would require "*authorisation under ... the Pipe-lines Act 1962*". According to the Pipe-Lines Act, a cross-country pipeline means a pipeline whose length exceeds, or is intended to exceed 16.093 km (i.e. 10 miles). A pipeline is defined as a pipe or system of pipes for the conveyance of anything other than air, water, water vapour or steam. Therefore, the Proposed Development hydrogen pipeline as currently proposed would require development consent.
- 1.4.3 Although works to construct the Proposed Development, including the Production Facility, do not fall under the definition of a NSIP, the Applicant sought a direction under Section 35 of the PA 2008 from the SoS to give a direction for all the elements of the Proposed Development to be treated as development for which development consent is required.
- 1.4.4 On the 22<sup>nd</sup> of December 2022, the SoS took the decision within the conditions as required by section 35A of the PA 2008 and issued a direction under sections 35(1) and 35ZA that the Production Facility and any aspect of the hydrogen pipelines that are not automatically a NSIP are to be treated as development for which development consent is required. The other aspects of the Proposed Development are being brought forward as 'Associated Development' to that development.
- 1.4.5 As a result of the above, the Applicant is required to obtain a DCO to construct and operate the Proposed Development under the PA 2008. Section 37 governs the form, content and accompanying documents that are required as part of a DCO application. The requirements are implemented through the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (the APFP Regulations), which state that an application must be accompanied by an ES, where a development requires an Environmental Impact Assessment (EIA) also known as an 'EIA development' under The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations).
- 1.4.6 A DCO Application for the Proposed Development will be submitted to the Planning Inspectorate ('the Inspectorate') who will examine the Application and make a recommendation to the SoS for DESNZ pursuant to the PA 2008, who will subsequently determine whether a DCO should be granted.
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## 1.5 Environmental Impact Assessment (EIA) and the Purpose of the PEI Report

### The EIA Scoping Process

- 1.5.1 On 30<sup>th</sup> March 2023, the Applicant notified the SoS in writing under Regulation 8(1)(b) of the EIA Regulations that it intends to provide an ES in respect of the Proposed Development. The Proposed Development is 'EIA development' for the purposes of the EIA Regulations and an ES will form part of the DCO Application.
- 1.5.2 The purpose of the EIA Scoping process is to determine which topics should be included in the EIA and the level of detail to which they should be assessed. An EIA Scoping Report distinguishes the priority issues to be addressed at the assessment stage (i.e. within the ES). It also identifies those matters, where possible, which do not need to be assessed in detail and can be 'scoped out'. An EIA Scoping Report for the Proposed Development and a request for an EIA Scoping Opinion pursuant to Regulation 10 of the EIA Regulations was submitted to the Inspectorate on 6<sup>th</sup> April 2023.
- 1.5.3 The EIA Scoping Report presented within Appendix 1A (PEI Report, Volume III) was developed with reference to standard guidance and best practice. It was further informed by the EIA team's experience of working on similar projects. The EIA Scoping Report sets out:
- details of the Proposed Development and the Proposed Development Site;
  - a summary of alternatives considered;
  - a summary of existing and future baseline conditions;
  - an outline of the likely environmental effects of the Proposed Development;
  - a description of the matters to be scoped in and out of the EIA;
  - proposed assessment methods; and
  - the proposed structure of the ES.
- 1.5.4 The SoS's Scoping Opinion was received on 17<sup>th</sup> May 2023 and is presented within Appendix 1B (PEI Report, Volume III). The matters raised have been reviewed and are taken into consideration in the relevant technical assessments. Further details on the EIA Scoping Opinion are set out in Chapter 2: Assessment Methodology (PEI Report, Volume I).

### The PEI Report

- 1.5.5 Following the completion of an EIA Scoping Report and the publication of the SoS Scoping Opinion, the EIA for the Proposed Development is reported in two stages:
- a PEI Report is prepared to inform consultation with the public and other stakeholders regarding the Proposed Development, based on the preliminary environmental information available at the time of consultation; and
  - an ES is prepared to report the final outcomes of the EIA process and will accompany the DCO Application.



1.5.6 This document is the PEI Report which has been prepared to satisfy the requirements of Regulation 12(2) of the EIA Regulations. In accordance with Regulation 12(2)(b), the PEI Report presents *the “information referred to in Regulation 14(2) which... is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development)”*. Regulation 14(2) describes the information required to be included in an ES.

1.5.7 Table 1-1 identifies where the information defined by Regulation 14(2) can be found within this PEI Report.

Table 1-1: Location of Information Required by Regulation 14(2) within this PEI Report

| SPECIFIED INFORMATION  | LOCATION WITHIN PEI REPORT  |
|--|---|
| a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development.  | Volume I Chapter 3: Description of the Existing Environment, Chapter 4: Proposed Development, Chapter 5: Construction and Programme Management, and Chapter 6: Alternatives and Design Evolution, and supporting figures and (where relevant) appendices to these chapters in Volumes II and III. |
| b) a description of the likely significant effects of the proposed development on the environment.   | Volume I Chapters 8 to 23, ‘Likely Impacts and Effects’ sections.   |
| c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment.   | Volume I Chapter 4: Proposed Development and Chapters 8 to 23, ‘Development Design and Impact Avoidance’ and ‘Mitigation and Enhancement Measures’ sections.  |
| d) a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment. | Volume I Chapter 6: Need, Alternatives and Design Evolution.  |
| e) a non-technical summary of the information referred to in subparagraphs (a) to (d).   | Volume IV: Non-Technical Summary (NTS).   |



| SPECIFIED INFORMATION   | LOCATION WITHIN PEI REPORT  |
|---|---|
| <p>f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.</p> | <p>Baseline conditions relevant to each assessment are described in Volume I Chapters 8 to 23, 'Baseline Conditions' sections.</p> <p>Assessment methods are described in Volume I Chapter 2: Assessment Methodology and Chapters 8 to 23, 'Assessment Methodology and Significance Criteria' sections.</p> <p>Any limitations and/or difficulties with the assessments are described in Volume I Chapters 8 to 23, 'Limitations or Difficulties' sections.</p> <p>Reference lists detailing sources used are included at the end of each PEI Report chapter.</p> |

1.5.8 The Inspectorate's Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements (Planning Inspectorate, 2020) states:

*"A good PEI document is one that enables consultees (both specialist and non-specialist) to understand the likely environmental effects of the Proposed Development and helps to inform their consultation responses on the Proposed Development during the pre-application stage".*

1.5.9 To enable consultees to understand the likely environmental effects of the Proposed Development, this PEI Report presents preliminary findings of the environmental assessments undertaken to date. This allows consultees the opportunity to provide informed comment on the Proposed Development, the assessment process, and preliminary findings prior to the finalisation of the DCO Application and the ES. The Applicant is seeking the views of consultees on the information contained within this report and there is opportunity within the process up to submission of the DCO Application for both the EIA and the Proposed Development design to have regard to comments received.

1.5.10 It should be noted that this PEI Report does not constitute a full ES, but rather presents the findings of the EIA process to date. The information presented in this PEI Report describes the current extent of the environmental assessment work undertaken based on the available information. It is considered that the PEI Report presents sufficient preliminary environmental information to enable consultees to develop an informed view of the Proposed Development and its likely significant environmental effects.

1.5.11 Following statutory consultation, this PEI Report will be developed into the ES, taking into consideration comments raised during consultation. The ES will be submitted as

part of the DCO Application, alongside other related assessments and documents including (but not limited to) a Nutrient Neutrality Assessment, Water Framework Directive (WFD) Assessment, Biodiversity Net Gain (BNG) Report and Habitats Regulations Assessment (HRA).

## 1.6 Structure of this PEI Report

1.6.1 The structure of this PEI Report reflects the proposed format of the ES and covers the assessment topics agreed through the EIA Scoping process.

1.6.2 Volume I of the PEI Report is structured into chapters as follows:

- Chapters 1 and 2: an introduction to the PEI Report and the EIA methodology and approach;
- Chapters 3 – 6: a description of the Proposed Development Site and Proposed Development, including information on construction timescales and alternatives;
- Chapter 7: a description of relevant legislation and planning policy;
- Chapters 8 – 22: preliminary assessments of the likely significant effects of the Proposed Development (taking into account any mitigation measures proposed) in relation to the environmental topics scoped into the EIA;
- Chapter 23: preliminary assessment of potential interrelationships between the topics covered in Chapters 8 – 22 (combined effects) and between the Proposed Development and other planned developments in the vicinity of the Proposed Development Site (cumulative effects); and

1.6.3 Volumes II and III of the PEI Report comprise the figures and technical appendices that accompany and support the content of Volume I.

1.6.4 Volume IV is a separate document that has been prepared to provide a non-technical summary of this PEI Report.

## 1.7 Consultation

1.7.1 Consultation is integral to the preparation of DCO applications and to the EIA process. The views of the consultation bodies, stakeholders and the local community serve to focus the environmental assessments and to identify specific issues that require further investigation, as well as to inform aspects of the design of the Proposed Development. Consultation is an ongoing process, and the publication of this PEI Report forms an important part of that process.

1.7.2 The Act requires DCO applicants to undertake statutory pre-application consultation on their proposals. There are a number of requirements as to how this consultation must be undertaken that are set out in the Act and related Regulations, including:

- Section 42 of the Act requires the Applicant to consult with ‘prescribed persons’, which includes certain consultation bodies such as the Environment Agency (EA), Marine Management Organisation (MMO) and Natural England, relevant statutory undertakers, relevant local authorities, those with an interest in the land, as well as those who may be affected by the development.





- Section 47 of the Act requires the Applicant to consult with the local community regarding the development. Prior to this, the Applicant must agree a Statement of Community Consultation (SoCC) with the relevant local authorities. The SoCC must set out the proposed community consultation and, once agreed with the relevant local authorities, a SoCC notice must be published in local newspapers circulating within the vicinity of the land in question (the Proposed Development Site). The consultation must then be undertaken in accordance with the agreed SoCC.
  - Section 48 of the Act places a duty on the Applicant to publicise the Application in the 'prescribed manner' in a national newspaper, The London Gazette, local newspapers circulating within the vicinity of the land (the Proposed Development Site), and certain marine publications.
  - Section 49 of the Act places a duty on the Applicant to take account of any relevant responses received to the consultation and publicity that is required by Sections 42, 47, and 48 of the Act.
- 1.7.3 The Applicant has consulted with the Inspectorate and with the local authorities in which the Proposed Development Site sits, namely Redcar & Cleveland Borough Council (RCBC), Stockton-on-Tees Borough Council (SoTBC), and Hartlepool Borough Council (HBC). Consultation with local authorities has included submission of a data request to the Lead Local Flood Authorities (LLFA) the EA and Natural England and contact with relevant representatives from the local authorities to agree representative photo viewpoint locations and noise and air quality monitoring locations.
- 1.7.4 The Applicant has also continued to engage in informal consultation with the EA and Natural England, to discuss data requests, design options and potential mitigation measures.
- 1.7.5 The Applicant is undertaking a formal Section 42 and Section 47 consultation (including agreeing a SoCC with the local authorities and issuing Section 48 notices), which will commence at the same time as the publication of this PEI Report.
- 1.7.6 The issues that have been raised through consultation and how these have been considered and addressed within the design evolution of the Proposed Development and the EIA process will be detailed in the ES.
- 1.7.7 The pre-application consultation undertaken by the Applicant will be documented within a Consultation Report that will form part of the DCO Application. This will include a separate section on EIA-related consultation as recommended within the Inspectorate Advice Note Fourteen: Compiling the Consultation Report (Planning Inspectorate, 2021).



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## 1.8 References

- Department for Energy Security & Net Zero (2023). *UK Low Carbon Hydrogen Standard: Guidance on the greenhouse gas emissions and sustainability criteria, Version 2* [Online]. Available at: <https://www.gov.uk/government/publications/uk-low-carbon-hydrogen-standard-emissions-reporting-and-sustainability-criteria>.
- *Planning Act 2008* (c. 29). London: The Stationery Office [Online]. Available at: <https://www.legislation.gov.uk/ukpga/2008/29/contents>.
- *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017* (SI 2017/571). London: The Stationery Office [Online]. Available at: <https://www.legislation.gov.uk/uksi/2017/572/contents/made>.
- The Planning Inspectorate (2020). *Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements* [Online]. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/>.
- The Planning Inspectorate (2021). *Advice Note Fourteen: Compiling the Consultation Report* [Online]. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-fourteen-compiling-the-consultation-report/>.