

# **H2Teesside Project**

Planning Inspectorate Reference: EN070009

Land within the boroughs of Redcar and Cleveland and Stockton-on-Tees, Teesside and within the borough of Hartlepool, County Durham

The H2 Teesside Order

Document Reference: 8.11.10 Response to ExQ1 Geology, Hydrogeology and Land Contamination

Planning Act 2008



**Applicant: H2 Teesside Ltd** 

Date: October 2024

#### **H2** Teesside Ltd

Response to ExQ1 Geology, Hydrogeology and Land Contamination Document Reference: 8.11.10



# **DOCUMENT HISTORY**

| DOCUMENT REF   | 8.11.10 |      |          |
|----------------|---------|------|----------|
| REVISION       | 0       |      |          |
| AUTHOR         | DWD     |      |          |
| SIGNED         | NC      | DATE | 03.10.24 |
| APPROVED BY    | GB      | ·    | •        |
| SIGNED         | GB      | DATE | 03.10.24 |
| DOCUMENT OWNER | DWD     | ·    |          |

#### **H2** Teesside Ltd

Response to ExQ1 Geology, Hydrogeology and Land Contamination Document Reference: 8.11.10



# **TABLE OF CONTENTS**

| 1.0 | INTRODUCTION                               | . 2 |
|-----|--------------------------------------------|-----|
| 1.1 | Overview                                   | . 2 |
| 1.2 | The Purpose and Structure of this document | . 2 |

# **TABLES**

Table 1-1: Applicant's Responses to ExQ1 Geology, Hydrogeology and Land Contamination .. 1

Response to ExQ1 Geology, Hydrogeology and Land Contamination Document Reference: 8.11.10



### 1.0 INTRODUCTION

#### 1.1 Overview

- 1.1.1 This document has been prepared on behalf of H2 Teesside Limited (the 'Applicant'). It relates to an application (the 'Application') for a Development Consent Order (a 'DCO'), that was submitted to the Secretary of State for Energy Security and Net Zero ('DESNZ') on 25 March 2024, under Section 37 of 'The Planning Act 2008' (the 'PA 2008') in respect of the H2Teesside Project (the 'Proposed Development').
- 1.1.2 The Application has been accepted for examination. The Examination commenced on 29 August 2024.

## 1.2 The Purpose and Structure of this document

1.2.1 The purpose of this document is to set out the Applicant's responses to the Examining Authority's ExQ1 on Geology, Hydrogeology and Land Contamination, which were issued on 4 September 2024 [PD-008]. This document contains a table which includes the reference number for each relevant question, the ExA's comments and questions and the Applicant's responses to each of those questions.



Table 1-1: Applicant's Responses to ExQ1 Geology, Hydrogeology and Land Contamination

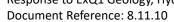
| EXQ1    | QUESTION TO:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RESPONSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q1.10.1 | Applicant and relevant LAs (HBC, RCBC and STBC), together with any other relevant Authority/ Body                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Clarification/ Views sought. Paragraph 10.3.19 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062] states the baseline conditions have been determined by a desk review of available information which is set out in the ES Appendix 10A (Desk Based Summary Report) [APP-194]). This document states confirmatory intrusive Ground Investigation (GI) will be undertaken to support the assessments and will also be used to inform the Proposed Development Site detailed design.  Paragraph 10.3.21 of the same Chapter of the ES advises that the scope of the GI will be forwarded to the relevant authorities, as appropriate, prior to commencing works. This includes informing LAs, if appropriate, for GI associated with pipeline routes and for the engagement of relevant stakeholders in areas near sensitive ecological receptors.  In relation to the above, can the Applicant: | <ul> <li>i) The following intrusive GIs are planned (details subject to change):</li> <li>• Tees Crossing Pipeline (Onshore) – Ground Investigation: April 2025 to June 2025: Scope to include: 3 sonic boreholes with rotary follow on to 70m bgl, sampling, groundwater/ground gas installations with monitoring sampling, geotechnical and geochemical testing and insitu testing</li> <li>• Tees Crossing Pipeline (Over-water) – Ground Investigation: January 2025 to March 2025 Scope to include: 3 overwater boreholes to 60m below riverbed, in-situ testing, sampling and chemical/geotechnical testing.</li> <li>• Sitewide Pipelines: Area 1 Greatham NGN C&amp;B - Ground Investigation: May 2025 to June 2025 Scope to include: 6 dynamic sample boreholes to 20m bgl, 4 trial pits, sampling, groundwater and gas installations and sampling and monitoring, in-situ testing, geotechnical and</li> </ul> |
|         | <ul> <li>i) provide details of the scope and the timetable for undertaking the intrusive Gls?</li> <li>ii) identify the provision within the draft DCO [AS-013] which ensures and sets out the timetable for undertaking the Gl?</li> <li>iii) provide further details on the reporting process which will be adopted to inform the LAs on Gl associated with pipeline routes?</li> <li>iv) clarify the Stakeholders that will be engaged in relation to areas near sensitive ecological receptors and what the engagement process will involve?</li> <li>v) provide an explanation of how the confirmatory Gl will inform the design of the proposed Development?</li> <li>In relation to the above, do the LAs or any other relevant Authority/ Body:</li> <li>vi) consider that there should be any other body in addition to the LAs which should be consulted by the Applicant on the scope of the Gl prior to the commencement of works?</li> <li>vii) have any comments or observations in relation to the baseline data in Appendix 10A (Desk Based Summary Report) [APP-194]?</li> </ul> | Gls?  ii) identify the provision within the draft DCO [AS-013] which ensures and sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul> <li>chemical testing, electrical and thermal resistivity testing, seismic refraction testing.</li> <li>Sitewide Pipelines: Area 2 Greatham Venator Offtake - Ground Investigation: May 2025 to June 2025 Scope to include: 2 sonic boreholes to 10m bgl, 10 sonic boreholes to 20m bgl, 6 dynamic sample boreholes to 10m bgl, 9 machine dug trial pits, groundwater</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul> <li>and ground gas installations monitoring and sampling, sampling, insitu testing, chemical and geotechnical testing, electrical and thermal resistivity testing, seismic refraction testing.</li> <li>Sitewide Pipelines: Area 3 Teesworks Route 1 – Date to be confirmed</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ii) The undertaking of GI is secured in two ways. Firstly, as the requirement to undertake them is set out in the Framework CEMP [APP-043]. The Final CEMP will be informed by those GIs, and must in any event be developed in substantial accordance with the Framework CEMP (as secured by Requirement 15 of the Development Consent Order [AS-013]).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Secondly, Requirement 12 of the Development Consent Order [AS-013] requires, pre-commencement, a scheme to manage contamination risks to be approved. This will be informed by the GIs undertaken – practically it would not be possible to develop that scheme without the GIs having first been undertaken to understand the risks, indeed this is why GIs have been specifically excluded from the scope of 'commence' from that Requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| EXQ1    | QUESTION TO:                                                                                                  | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RESPONSI                    | E                                                                                                                                                                                                                                                                                                                                                                             |
|---------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | iii)                        | The Applicant will produce Ground Investigation Interpretative Reports for each Phase of Ground Investigation Where there is a regulatory requirement to do so, these reports will be shared with the local authorities.                                                                                                                                                      |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | iv)                         | The Applicant will be engaging with Natural England and the Environment Agency in the development of the above GIs                                                                                                                                                                                                                                                            |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | v)                          | The GIs will help determine the final locations of structures to be installed, informing foundation design and understanding constraints and obstructions to be avoided.                                                                                                                                                                                                      |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                                                                                                                                                                               |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                                                                                                                                                                               |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                                                                                                                                                                               |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                                                                                                                                                                               |
|         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                                                                                                                                                                               |
| Q1.10.2 | Applicant and relevant<br>LAs (HBC, RCBC and<br>STBC), together with<br>any other relevant<br>Authority/ Body | Clarification/ Views sought.  Paragraph 10.4.12 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062] states that there is one brinefield, for salt production, currently active in the study area which is near Seal Sands in Stockton-on-Tees. Additionally, it states that two further brinefields in the Seal Sands area have existing planning permissions, whilst two brinefield cavities at Wilton, in Redcar and Cleveland, have existing permission for extraction under an 'Instrument of Consent'. It is noted that the Wilton cavities are presently used for gas storage, rather than extraction and that the British Geological Survey indicates brine extraction has limited viability of itself, but acknowledges that there may be future interest to create storage caverns for gas and other fluid. | previous r  Fig Fig Fig Fig | referred to the following figures within the ES detailing the locations of mining and mineral extraction:  gure 10-20-Brit Pits [APP-138] gure 10-21-Non-Coal Mining [APP-139] gure 10-22-Surface Ground Workings [APP-140] gure 10-23-Underground Workings [APP-141]  fields are denoted on ES Figure 10-20 (Brit Pits) and are summarised here information from Groundsure: |



| QUESTION TO: | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | RESPO                                                                                                                                                                 | NSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                              |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | Paragraph 10.4.15 of the same Chapter 10 of the ES states that ten dormant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                       | Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Commodity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Status                                                                                                                                                                                                                                                       |
|              | minerals sites were identified in the Tees Valley, one of which has had new conditions approved for minerals extraction (the anhydrite mine at Billingham).                                                                                                                                                                                                                                                                                                                                                                                                        | Onsite                                                                                                                                                                | Billingham Anhydrite Mine (x2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Haverton Hill,<br>BILLINGHAM, Co. Durham                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Anhydrite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ceased                                                                                                                                                                                                                                                       |
|              | Further, of the remaining nine it is now considered that seven of these sites are highly unlikely to ever resume extraction due to recent development, designations or proposed allocations for other uses. Land at the remaining sites at Low                                                                                                                                                                                                                                                                                                                     | Onsite                                                                                                                                                                | Saltholme Brinefield No 4<br>South<br>Saltholme No 5 Brinefield                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MIDDLESBROUGH, North<br>Yorkshire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Salt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inactive                                                                                                                                                                                                                                                     |
|              | Middlesfield Farm and Eaglescliffe Brickworks (Stockton-on-Tees) may require new planning permissions to be approved before they could be reopened.                                                                                                                                                                                                                                                                                                                                                                                                                | Offsite                                                                                                                                                               | Greatham Creek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | HARTLEPOOL, Co. Durham                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Salt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ceased                                                                                                                                                                                                                                                       |
|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Offsite                                                                                                                                                               | Seal Sands Brinefield                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MIDDLESBROUGH, North<br>Yorkshire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Salt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inactive                                                                                                                                                                                                                                                     |
|              | Bearing the above in mind, can the Applicant provide evidence for the above conclusions related to the sites referred to, or direct the ExA to where in the submitted Application Documentation such evidence can be located.                                                                                                                                                                                                                                                                                                                                      | Offsite                                                                                                                                                               | Allhusen Brinewell A<br>Allhusen Brinewell 11<br>Allhusen Brinewell 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | BILLINGHAM, Cleveland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Salt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ceased                                                                                                                                                                                                                                                       |
|              | Additionally, please provide a plan that identifies the location of all of the sites mentioned above or signpost the ExA to where in the submitted Application Documentation such a plan can be located.  Can the LAs, together with any other relevant Authority/ Body, confirm they agree with the Applicant's assessment of the mineral sites, as set out in ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062]? If not, please can you set out any concerns or observations you have in this regard, giving full and reasoned explanations. | 10A.20 baseling Mining, Main Si ES Table the Ma The info from th Docume 2011). and no The site Order L consider the Loc ('RCBC' Mineral safegua Commothat the on geol | endix 10A 'Summary R [APP-194] also include e data on Mining; Evap Ground Workings and te and the connection of 10A-20 summarises to 10 | e information on minicorite Minerals (Salt, Formation on Minicorite Minerals (Salt, Formation Minerals (Salt, Formation Minerals Corridors.  Es Chapter 10 at paragrapherals and Waste Corridors.  Es Chapter 10 at paragrapherals and Waste Polymerals and Waste Polymerals and Waste Polymerals and Waste Polymerals and Eaglescliff Brown and Eaglescliff Brown and Eaglescliff Brown and Eaglescliff Brown and Salt Minerals and Contaminated by Redcal and Salt Minerals resources and formation of minerals resources and the Applicant and Eagleschiff Brown and Salt Minerals resources and formation of minerals resources and the Applicant and Eagleschiff Brown and Salt Minerals resources and the Applicant and Eagleschiff Brown and Salt Minerals Resources and Salt M | orkings and Silices and Silices and Silingham And.  It and Clevel idering the parts in relations in relations and RCBC [Rigard to the and silices and to the and silices and s | erals. This includes sum/Anhydrite); in the vicinity of the natural cavities risk as been taken evelopment Plan tes DPD (adopted itent of minerals site and Borough Country of the Joint on minerals are Statement of EP1-019] confirms ssessment of effects |





| EXQ1 QUESTION TO:                                                                                          | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RESPONSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | concerns are raised with regard to minerals safeguarding or the sterilisation of minerals resources.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Q1.10.3 Applicant and relevant LAs (HBC, RCBC and STBC), together with any other relevant Authority/ Body. | t Clarification/ Views sought. Paragraphs 10.4.9 to 10.4.18 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062] refers to 'Geological Features and Minerals', with Paragraph 10.4.17 referencing:  • the Tees Valley Joint Minerals and Waste Development Plan Documents, Policies and Sites Development Plan Document; and  • the Tees Valley Joint Minerals and Waste Development Plan Documents, Core Strategy Development Plan Document,  • which indicate that there are safeguarded mineral deposits beneath the site.  Bearing the above documents in mind, please advise whether the Proposed Development would result in the loss of access to these safeguarded mineral deposits and explain how/ whether, as a result of the Proposed Development, it would accord with the above mentioned Development Plan Documents? | The Proposed Development Site includes a very small section of the marine dredged sand and gravel safeguarded wharf at Tees Dock, in Redcar and Cleveland, at the location of the Horizontal Directional Drilling ('HDD') crossing of River Tees. However, the route of the HDD and the installed pipeline would be further towards the River Tees and not be constructed beneath the safeguarded wharf.  Salt and Gypsum deposits within bedrock are encountered at significant depth beneath the Site. The BGS Geolndex online mapping indicates that both the salt and gypsum deposits cover a significant area along the east coast area of England from Teesmouth to the Humber Estuary.  Salt is understood to be mined to the west of Seal Sands by controlled brine pumping within deposits at depths greater than 300m. Cavities of controlled size and shape are created to maintain the stability of the overlying strata.  Gypsum is mined using the pillar and stall method, with a 75% extraction rate. The pillar and stall method does not give rise to surface subsidence as the pillars support the overlying strata. The Minerals Safeguarding Areas ('MSAs') that apply to the Proposed Development Site (as identified in the Joint Minerals and Waste Core Strategy DPD) are for deep Salt and deep Gypsum resources and extend under the whole of the Site. Policy MWC4 'Safeguarding of Minerals Resources from Sterilisation' states that:  "Within the minerals safeguarding areas, non-minerals development will only be permitted in the following circumstances:  a) the development would not sterilise or prejudice the future extraction of the mineral resource because there is evidence that the resource has been sufficiently depleted by previous extraction; or  b) the mineral will be extracted prior to development and this will not significantly adversely affect the timing and viability of the non-minerals development; or c) the need for the non-mineral development can be demonstrated to outweigh the need for the mon-mineral development can be demonstrated to outwei |



| EXQ1    | QUESTION TO:                           | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | RESPONSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q1.10.4 | IPs                                    | Views sought.  Can the relevant bodies please confirm whether they have any comments or observations in respect of the Framework CEMP [APP-043]?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | impact on the future extraction of these mineral resources and complies with Policy MWC4(a) in respect of permitting non-minerals development within MSAs.  Further to the above, the Local Impact Reports submitted by Redcar and Cleveland Borough Council [REP1-043] and Stockton-on-Tees Borough Council [REP1-045] raise no concern or issue with regard to the Proposed Development in terms of access to or sterilisation of mineral resources within the area.  As such, there is no overriding conflict between the Proposed Development and minerals policies and any limited conflict that might exist would be outweighed by the National Policy Statements ('NPSs') for energy, which confirm the urgent need for low carbon energy infrastructure, coupled with the wider benefits of the Proposed Development.  n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Q1.10.5 | Applicant, STDC and relevant LA (RCBC) | Clarification/ Views sought.  Paragraphs 10.5.12 -10.5.13 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062]) states that STDC are currently completing site clearance and remediation works. The impacts from this activity have not been included in this assessment. It is currently anticipated that STDC will complete remediation works required to create a suitable development area before commencement of construction of the Proposed Development, with STDC to obtain the necessary planning and other consents. It is further stated that if the necessary planning approval is not forthcoming or remediation works are not undertaken with the appropriate timescales the Applicant would undertake the remedial works and this is assumed as the worst-case scenario for the ES.  With the above in mind:  Can the Applicant and STDC confirm the status of planning approval, permits and licences relating to the clearance and remediation works?  Can the Applicant and STDC confirm who will be responsible for the risk assessment and any long-term monitoring of the efficacy of any remedial works and how this has been secured?  Can the Applicant identify the relevant Requirement in the draft DCO [AS-013] which will ensure site clearance and remediation of the Proposed Development is undertaken by the Applicant should STDC not obtain the necessary planning permission or undertake the works within the appropriate timescale? | <ul> <li>i) STDC planning applications for remediation relevant to the DCO Main Site have been submitted as follows;</li> <li>R/2024/0177/CD (South-west of DCO Main Site) Partial discharge 16/5/2024 of condition 15 (Remediation Scheme) of outline planning permission R/2020/0821/ESM</li> <li>R/2024/0414/CD (South-east of DCO Main Site) Partial discharge 5/8/2024 of condition 15 (Remediation Scheme) of outline planning permission R/2020/0821/ESM,</li> <li>The Applicant understands a further full planning application is due to be made for central east area of DCO Main Site, which is adjacent to land in R/2020/0821/ESM. The three areas of DCO Main Site listed above include the all of the land required for H2Teesside Phase 1.</li> <li>We understand that STDC is progressing their application for a Deposit for Recovery (DfR) Permit for Foundry Central West with the EA. We understand that pre application advice is to commence shortly for a DfR Permit for Foundry Central East.</li> <li>ii) Condition 15 of STDC outline planning permission R/2020/0821/ESM requires the development shall be carried out in accordance with the approved remediation scheme, unless otherwise approved. Condition 16 requires Verification Reports to be approved by the LA before discharge.</li> </ul> |



| EXQ1    | QUESTION TO:                                                                                            | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | RESPONSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                                                                         | Can the relevant LA (RCBC) provide an update on the current position regarding the planning permission submitted by STDC in respect of the clearance and remediation works?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | STDC DfR permits will likely require monitoring to be completed by STDC to support formal permit surrender.  iii) If the DCO is granted, ancillary work (j) in Schedule 1 of the DCO [AS-013] authorises remediation works. Requirement 12  sets out the requirements for remediation, which must occur before the commencement of the authorised development, which includes the ancillary works. Please also see the response to 1.10.6 below.                                                                                                                                                                                                |
| Q1.10.6 | Applicant                                                                                               | Clarification. Paragraph 10.5.14 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062]) states you will also review the scope of any remedial measures considered to be required following the completion of, or in place of, the remedial works undertaken by STDC. You have referred to these as 'additional remedial measures'.  The ExA would ask how can such remedial measures be referred to as 'additional remedial measures' in the event of having to undertake the remedial works itself, should that work not have been completed by STDC and, for the sake of clarity, please signpost which Requirement in the draft DCO [AS-013] secures the delivery of the remediation of the site in the event that remedial works are not undertaken and completed by STDC? | As noted in Paragraph 10.5.13 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062]) the Applicant expects STDC to undertake the remediation of the Main Site. However, a worse-case scenario was assumed in preparation of the ES, where the remediation works had not been undertaken by STDC for any reason. 'Additional' was used to differentiate between STDC remediation works and any residual remediation works that may be required by the Applicant.  In any event, the key point is that remediation is secured through Requirement 12 of the DCO (see paras 2(b) and (c)), if the Applicant is to undertake it. |
| Q1.10.7 | Applicant                                                                                               | Clarification. Paragraph 10.5.17 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062] states if any contamination is found during the construction of the Proposed Development, which has not been previously identified, then an appropriate risk assessment will be prepared.  Any actions/ remedial measures resulting from the risk assessment will then be agreed with the relevant LA(s), in consultation with the EA, where risks to controlled waters are identified, pursuant to the DCO Requirement.  Can the Applicant explain the mechanism by which the relevant Requirement in the draft DCO [AS-013] secures the undertaking of the risk assessment and delivery of the 'additional remedial measures' resulting?                                              | Requirement 12(2)(e) sets out that its scheme for managing contamination risk must set out how unexpected contamination will be dealt with. That would include the approach to risk assessment and any remedial activities required, but seen in the wider context of the wider programme of dealing with contamination across the site.  In the scenario where STDC complete the remediation before construction of the Proposed Development, there would not be 'unexpected contamination' as verification would already have been undertaken by STDC. In that scenario, the controls in the Final CEMP would manage contamination risk.      |
| Q1.10.8 | Applicant, STDC and relevant LAs (HBC, RCBC and STBC), together with any other relevant Authority/ Body | Clarification/ Views sought.  The EA's RR [RR-009] notes that STDC are responsible for completing site clearance and remediation works. The EA states that the Applicant may not be aware that a site adjacent to a section of the proposed pipeline corridor (NGR NZ 51767 24084) is currently being investigated under Part 2A of the Environmental Protection Act 1990. The site was previously known as Seal Sands Chemicals Company (SSC). The                                                                                                                                                                                                                                                                                                                                               | Stockton on Tees BC have confirmed that the Seal Sands Chemical works site is not being investigated as Part 2A but is categorised as PCC2 (medium risk). Under their Contaminated Land Strategy it is proposed that the site is investigated for land contamination under the Planning Regime during re-development. Further details of the boundary are awaited and whether the SSC site falls within the Order Limits. Once the Applicant receives this data, the Applicant can:                                                                                                                                                             |



| EXQ1    | QUESTION TO:               | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | RESPONSE                                                                                                                                                                                                                                                                                                                                                                          |
|---------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                            | site is heavily impacted by previous chemical manufacturing on site which disposed of waste to land which has gone on to impact shallow groundwater. The EA advise that they are investigating this site on behalf of STBC and that additional information can be sought from the LA.  In consideration of the above,  Can the Applicant advise whether any of the land being referred to by the EA as "being investigated under Part 2A of the Environmental Protection Act 1990" falls within the Order Limits and if so, please signpost the plan which identifies the former SSC land? If no such plan has been provided, please enter such a plan into the Examination.  In addition to the above can the Applicant, STDC and the EA, together with any other relevant Authority/ Body, confirm what discussions have taken place with regard to the land being referred to by the EA as "being investigated under Part 2A of the Environmental Protection Act 1990."?  If this land does fall within the Order Limits, the ExA would ask the Applicant where within the Application documentation it has assessed any risks and impacts (significant or otherwise) in relation to this land.  Where the assessment referred to in iii) above has been undertaken and submitted as part of the Application documentation can the EA, LAs and/ or any other relevant Authority/ Body confirm that the assessment has adequately assess that land in question. Should no such assessment of this land have been submitted can the EA, LAs and/ or any other relevant Authority/ Bodies advise whether such an assessment should/ should not be undertaken, which takes account of this land? | <ul> <li>signpost the relevant plan showing the SSC site or provide a new plan showing same; and</li> <li>confirm if the application documentation has assessed any risks in relation to this land, and consider if any updated assessments are required.</li> </ul>                                                                                                              |
| Q1.10.9 | Applicant and relevant IPs | Clarification/ Views sought.  Paragraph 10.5.10 of ES Chapter 10 (Geology, Hydrogeology and Contaminated Land) [APP-062] states that assessment of the significance of impacts will take into account the principles of assessment in the Construction Industry Research and Information Association (CIRIA) Report C552 (2001) and the EA's Guiding Principles for Land Contamination in assessing risks to controlled waters (EA, 2010). It also explains that any such risk-based assessment may indicate the need for mitigation measures additional to those as detailed in the ES. An environmental risk assessment has been submitted at ES Appendix 10C (Contaminated Land Environmental Risk Assessment) [APP-196].  Bearing these documents in mind:  The Applicant is asked to explain how its risk assessments have taken into account the EA's Guiding Principles for Land Contamination.  All relevant IPs are asked to confirm whether they consider the Applicant has used the most up to date and appropriate approaches for undertaking such risk assessments (ie to controlled waters and human health); and if not to explain what approaches to such risk assessments the Applicant should have followed?                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | i) The Applicant confirms the reference to the EAs Guiding Principles for Land Contamination was erroneously added and reference should be removed as the Land Contamination: Risk Management (2023)is the most up to date guidance for managing land contamination risks. The Applicant has undertaken the risk assessments based on Land Contamination: Risk Management (2023). |

## **H2 Teesside Ltd**

Response to ExQ1 Geology, Hydrogeology and Land Contamination Document Reference: 8.11.10



| EXQ1     | QUESTION TO: | QUESTION:                                                                                                                                                                                                                                                                                                                                                                                                    | RESPONSE |
|----------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Q1.10.10 | EA           | Clarification.  In your RR [RR-009] you note that the proposed hydrogen pipeline corridor could be underground and advise that GI may be appropriate in this location, as detailed in Table 7-3 of ES Chapter 10 (Geology, Hydrogeology and Land Contamination) [APP-062]. However, the ExA is unclear which table you are referring to, as there is no Table 7-3 in this Chapter of the ES. Please clarify. | n/a      |