

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: 8.11.12 Response to ExQ1 Material and Waste Management

Planning Act 2008



Applicant: H2 Teesside Ltd

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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 Material and Waste Management, 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 Material and Waste Management

EXQ1	QUESTION TO:	QUESTION:	RESPONSE:
Q1.12.1	Applicant	<p>Clarification.</p> <p>Paragraph 21.3.8 of ES Chapter 21 (Materials and Waste Management) [APP-074] states that an assessment of material diverted from landfill has not been used as this is more relevant to small and less-complex projects. However, reduction in waste for disposal is a requirement of NPS EN-1.</p> <p>Please explain how reduction in waste to be disposed will be promoted and included within construction contracts to ensure this is seen.</p> <p>Please also explain how this will be secured in the DCO and what monitoring and incentive arrangements may be used to reduce the amount of waste.</p>	<p>As stated in paragraph 21.5.4 ES Chapter 21: Materials and Waste Management [APP-074] an Outline Site Waste Management Plan (SWMP) [APP-044] has been developed as part of the Framework Construction Environmental Management Plan (CEMP) [APP-043] which allows for waste streams to be estimated and monitored.</p> <p>The Outline SWMP sets out how waste will be managed during construction, and opportunities to prevent waste, reuse materials and recycle or recover waste will be explored in accordance with the waste hierarchy. A requirement to apply the waste hierarchy and adopt best practice measures is included in paragraph 3.6.1 of the Outline SWMP [APP-044].</p> <p>Section 6.13 of the Outline SWMP [APP-044] includes requirements regarding reporting and auditing, review of the SWMP, additional duty of care checks, site inspections and closure reporting.</p> <p>A Final SWMP will be prepared by the EPC Contractor(s) in accordance with the Outline SWMP prior to construction. The submission, approval, and implementation of the Final SWMP is secured by the Requirement outlined in paragraph 15 of Schedule 2 to the draft DCO [AS-013].</p> <p>Compliance with the DCO (and its associated plans) will form part of the contracts the Applicant enters into – the Applicant will need to do this given the risks that arise from breaching the terms of the DCO.</p> <p>As stated in Paragraph 3.5.3 of the Outline SWMP [APP-044] targets for materials and waste will be included in the Final SWMP.</p>
Q1.12.2	Applicant	<p>Clarification</p> <p>Bullet point 4 in paragraph 21.3.20 of ES Chapter 21 (Materials and Waste Management) [APP-074] states that effects of decommissioning will be no worse than that experienced during the construction phase.</p> <p>Notwithstanding this, please detail what measures and design approaches have been undertaken to minimise waste and hazardous waste during the decommissioning phase and how this will be incorporated into a decommissioning environmental management plan.</p>	<p>The DEMP is secured by Requirement 28 of the dDCO [AS-013].</p> <p>The Hydrogen Production Facility will lend itself to modular construction techniques which will allow for minimisation of waste at decommissioning stage, as well as more sustainable construction practices.</p> <p>Similar to the construction phase of the Proposed Development, best industry practice at the time of decommissioning will be adhered to ensure waste streams during decommissioning are minimised. To minimise waste and hazardous waste during the decommissioning phase, the process of decommissioning would be carried out in accordance with circular principles in design, operations and decommissioning. This would</p>

EXQ1	QUESTION TO:	QUESTION:	RESPONSE:
			include minimising the amount of waste and hazardous waste by measures such as decontamination prior to decommissioning; and identifying options for reuse, refurbishment and recycling of plant components. The nature of the Proposed Facility, being constructed largely of modular components, is well suited to controlled disassembly followed by reuse, refurbishment and recycling.
Q1.12.3	Applicant	<p>Clarification.</p> <p>Table 21-1 of ES Chapter 21 (Materials and Waste Management) [APP-074] states that changes in the availability of materials during the Operational phase has been scoped out of the Materials and Waste Assessment.</p> <p>Please detail what these materials and waste streams could be and if there is considered to be any potential impact from changes in these during Operation, even though they have been scoped out of the assessment.</p>	<p>Changes in the availability of materials during the operation phase are scoped out of the materials and waste assessment as agreed at scoping. As stated in the scoping opinion [APP-185] <i>“Having considered the nature of the Proposed Development, the Inspectorate is satisfied that limited quantities of materials are likely to be required during operation and significant effects are therefore not likely to occur. The Inspectorate agrees that this matter can be scoped out of further assessment.”</i></p> <p>Operational waste streams are included in the assessment (paragraphs 21.6.25-21.6.29 of ES Chapter 21: Materials and Waste Management [APP-074]). Operational materials are listed in Paragraphs 4.7.3 and 4.7.4 of ES Chapter 4 (Proposed Development) [PDA-005]; there are not considered to be any potential impacts from changes in the availability of these materials since they are commonly available materials with global supply chains; and the demand from the Proposed Development is expected to account for only a very small proportion of global demand.</p>
Q1.12.4	EA	<p>View sought.</p> <p>Table 21-10 of ES Chapter 21 (Materials and Waste Management) [APP-074] details the consultation and response to the EA in relation to the proximity of historic and operational landfills sites. Please confirm you are satisfied with the Applicants response, and if not please explain why.</p>	n/a
Q1.12.5	Applicant	<p>Clarification.</p> <p>Paragraph 21.6.10 of ES Chapter 21 (Materials and Waste Management) [APP-074] states that the assessment of waste quantity has been made based on the project cost and an expectation of equal waste production across each year of the construction phase.</p> <p>Paragraph 21.6.11 states that a best practice benchmark for average waste is 5.5m³ per £100,000.</p> <p>Please explain the basis of this benchmark, please also explain how it is proposed to ensure waste generation and removal to landfill will be reduced within the construction contracts and how this will be monitored and enforced.</p>	<p>Construction waste benchmarks were developed by the Waste and Resources Action Programme (WRAP) and Building Research Establishment (BRE). The benchmarks are based on data collected in the SMARTwaste tool where actual waste arisings from construction projects are reported. The industrial building benchmark is based on 58 completed new build projects.</p> <p>As stated in ES Chapter 21: Materials and Waste Management [APP-074] an Outline Site Waste Management Plan (SWMP) [APP-044] has been developed as part of the Framework Construction Environmental Management Plan (CEMP) [APP-043] which allows for waste streams to be estimated and monitored.</p>

EXQ1	QUESTION TO:	QUESTION:	RESPONSE:
			<p>The Outline SWMP sets out how waste will be managed during construction, and opportunities to prevent waste, reuse materials and recycle or recover waste will be explored in accordance with the waste hierarchy.</p> <p>A Final SWMP will be prepared by the EPC Contractor(s) in accordance with the Outline SWMP prior to construction. The submission, approval, and implementation of the Final SWMP is secured by a Requirement of the draft DCO [AS-013].</p> <p>As stated in Paragraph 3.5.3 of the Outline SWMP [APP-044] targets for materials and waste will be included in the Final SWMP and could include, for example: achieving a set percentage (by weight) for recovery of non-hazardous construction and demolition waste. Such a target would specifically exclude naturally occurring materials with EWC Code 17 05 04 (soil and stones other than those mentioned in 17 05 03* (soils and stones containing dangerous substances)). Recovery is deemed to include reuse, recycling and other recovery e.g. energy recovery.</p> <p>As noted above, compliance with the DCO (and its associated plans such as the SWMP) will form part of the contracts the Applicant enters into – the Applicant will need to do this given the risks that arise from breaching the terms of the DCO.</p>
Q1.12.6	Applicant	<p>Clarification. Please explain, or signpost the ExA to the relevant documents, how/ where the cumulative effects of waste generation and material usage has been assessed in the application.</p>	<p>Paragraph 23.3.12 of ES Chapter 23: Cumulative and Combined Effects [APP-076] outlines why a detailed cumulative effects assessment has not been undertaken for materials and waste; this is primarily because the waste and minerals planning authorities are required to plan for all relevant types of waste generation and mineral supply within their area taking into account planned developments; and hence the cumulative impacts would be accounted for in this planning.</p> <p>No concerns have been raised by the LPAs in their LIRs in this regard.</p>
Q1.12.7	Applicant	<p>Clarification. Please explain how the estimate of hazardous waste has been assessed and what effect the historic use of the site has had on this estimate.</p> <p>Please also detail what impact foundation design options may have on hazardous waste generation.</p>	<p>Table 21-22: Construction Waste Summary of ES Chapter 21: Materials and Waste Management [APP-074] provides an estimate of hazardous waste generation associated with the excavation associated with the Proposed Development and based on the area of excavation. These figures were developed further to experience on previous projects and assumptions based on the contaminated nature of the site – see the response to 1.12.8 below.</p>

EXQ1	QUESTION TO:	QUESTION:	RESPONSE:
			<p>An assessment of hazardous waste is presented in Section 21.6. In summation, and under a worst-case scenario that all waste is disposed to hazardous landfill, a Moderate Adverse (Significant) effect is reported for the reduction in hazardous landfill capacity in England. This will be assessed further following a confirmatory GI.</p> <p>Foundation design options will not have an impact on hazardous waste generation since the site will be remediated before construction of the foundation commences.</p>
Q1.12.8	Applicant	<p>Clarification. Paragraph 21.7.1 of ES Chapter 21 (Materials and Waste Management) [APP-074] states that there is a potential significant effect in relation to the excavation and disposal of hazardous material during the construction phase and volume estimates will be refined post DCO consent. Please explain how the ExA can be satisfied that the worst case scenario has been assessed in the ES and why no further mitigation measures are deemed appropriate.</p> <p>Please also explain why in 21.7.1 it is assumed that following further investigations, the proportion of waste material will reduce rather than increase?</p>	<p>The volumes of excavated material used in the assessment are conservative and the assessment considers a worst case scenario where remediation works are not undertaken by STDC and need to be undertaken by the Applicant. If STDC undertake the remediation the waste generated would not part form part of the DCO Application, reducing the overall waste quantities because those arisings would be dealt with by STDC and covered by obtaining all necessary consents and permits.</p> <p>To estimate hazardous material volumes, in the scenario whereby remediation works are undertaken by the Applicant, the assessment considered the volume of material required to be excavated. A limited proportion of the material excavated for construction was assumed to potentially be contaminated, and of that waste it was assumed that this could be 70% non hazardous waste and 30% hazardous waste. The calculations also assumed a limited proportion of the site could require deeper or wider excavation if unexpected contamination was encountered. Such excavated material was assumed to be contaminated, with an assumption that this could be 70% non hazardous waste and 30% hazardous. In practice, the proportion of material from the Proposed Development Site classed as hazardous may be lower; with any hazardous excavated material being sent to a waste management facility rather than disposed of to landfill. This would further reduce the overall quantities of hazardous waste for disposal to landfill.</p> <p>However, it is noted that the arising of hazardous waste is partly an inevitability of development on the Teesworks site, given the historic uses of the site.</p>
Q1.12.9	STDC	<p>View sought. Please comment on any potential residual issues that may impact waste generation and disposal following remediation work on the Foundry Site and if these have been adequately assessed within the Applicants ES.</p>	n/a

EXQ1	QUESTION TO:	QUESTION:	RESPONSE:
Q1.12.10	Applicant	<p>Clarification.</p> <p>The RR from the EA [RR-009] states that there is a site being investigated by them which could give rise to additional hazardous waste. Please comment on whether this was known by the Applicant and if so has any allowance been made of hazardous waste generation in light of this. Also see Q1.10.8 above.</p>	<p>Please see answer to Q1.10.8. Once the Applicant has obtained the information required, it will be able to consider how this may affect its consideration of hazardous waste generation.</p>
Q1.12.11	LAs (HBC, RCBC and STBC).	<p>Clarification.</p> <p>Please confirm that the information contained in the ES for the Proposed Development accords with the Tees Valley Joint Minerals and Waste strategy. If it does not, please give details of why this is the case. Also see Q1.10.3 above.</p>	<p>The Applicant notes that the relevant policies of the Tees Valley Joint Minerals and Waste Development Plan Documents (DPDs) Core Strategy DPD and Tees Valley Joint Minerals and Waste DPD: Policies and Sites are outlined in Paragraph 21.2.23 and 21.2.24 of ES Vol I Chapter 21: Materials and Waste Management [APP-074]. The locations of safeguarded mineral and waste sites in the context of the Proposed Development are provided in Paragraphs 21.4.6 – 21.4.7 and Vol II Figure 21-1 Historic and Authorised Landfills and Waste and Mineral Sites [APP-179]. Changes to Safeguarded mineral and waste sites are assessed in Paragraph 21.6.4.</p>
Q1.12.12	Applicant and LAs (HBC, RCBC and STBC) (as the Waste Authorities), together with any other relevant Authority/ Body.	<p>Clarification/ Views sought.</p> <p>ES Chapter 21 (Materials and Waste Management) [APP-074] identifies a moderate adverse (significant) effect from changes in hazardous landfill void capacity during construction based on a worst case assumption of the volume (39,255m³). No additional mitigation is proposed in the ES at this time but it is stated that the estimates will be refined following site investigation.</p> <p>Question to the Applicant. Please confirm whether there is any additional mitigation that could be implemented if, following supplementary site investigation, the estimated volume of hazardous waste during construction is not reduced and a moderate adverse (significant) effect remains for hazardous landfill capacity. If so, how would the mitigation be secured.</p> <p>Question to HBC, RCBC and STBC (as the Waste Authorities), together with any other relevant Authority/ Body. Do you consider there to be any additional mitigation(s) that could be implemented if, following supplementary site investigation, the estimated volume of hazardous waste during construction is not reduced and a moderate adverse (significant) effect remains for hazardous landfill capacity. If so, how would the mitigation(s) be secured.</p>	<p>No additional mitigation is proposed at this stage. The worst case that a moderate adverse (significant) effect remains for hazardous landfill capacity is stated.</p> <p>Additional mitigation cannot be identified until an EPC Contractor is appointed by the Applicant. Further mitigation would be secured in the Full SWMP to be appended to the Final CEMP, produced prior to construction in conjunction with the EPC Contractor, in the event the Applicant has to remediate the Main Site – this could include treatment of any hazardous excavated material to reduce or avoid the need to send it for landfill disposal.</p> <p>It should be noted that the Moderate Adverse (Significant) effect is a worst case scenario in which the Applicant has to undertake remediation of the Main Site, it is currently anticipated STDC will do this under a separate planning consent.</p> <p>It should also be noted that this effect is also partly an inevitable consequence of the location of the Main Site in the context of the history of Teesworks – it is a brownfield site where large volumes of hazardous waste are likely to be located.</p>