THE APPLICANT'S RESPONSES TO RULE 17 QUESTIONS OF 6 JUNE 2023

Drax Bioenergy with Carbon Capture and Storage

Planning Act 2008 – Section 89; Infrastructure Planning (Examination Procedure) Rules 2010 – Rule 17

Document Reference Number: 8.19

Applicant: Drax Power Limited

PINS Reference: EN010120

REVISION: 01

DATE: June 2023

DOCUMENT OWNER: WSP UK Limited

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PUBLIC

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1. INTRODUCTION

1.1. PURPOSE OF THIS DOCUMENT

1.1.1. On 23 May 2022, Drax Power Limited ("the Applicant") made an application ("the Application") for a Development Consent Order (DCO) to the Secretary of State for Business, Energy and Industrial Strategy ("the SoS"). The Application relates to the Drax Bioenergy with Carbon Capture and Storage (BECCS) Project ("the Proposed Scheme") which is described in detail in Chapter 2 (Site and Project Description) of the Environmental Statement (ES) (APP-038).

1.1.2. The Application was accepted for Examination on 20 June 2022.

1.1.3. This document, submitted at Deadline 8 of the Examination, contains the Applicant's responses to the Examining Authority's (ExA) Rule 17 Request, issued by the ExA on 6 June 2023.

1.1.4. This document follows the same order as the Rule 17 Request.

1.1.5. At Deadline 8 the Applicant has submitted new or revised versions of documents submitted with the Application. These documents are referred to where relevant in the responses to the Rule 17 Request.

2. GENERAL AND CROSS TOPIC QUESTIONS

Table 2-1 – General and Cross Topic Questions

ExA Ref (Applicant Ref)	Addressed to	Question	Applicant's Response
R17QA.1	All IPs Applicant	The ExA requests that the Applicant and all IPs submit closing submissions at the final D10, detailing the respondent's closing positions at the close of the Examination on their principal issues.	In advance of any potential Hearing before the close of Examination, the Applicant has prepared a Position Statement in respect of the remaining issues of concern to NYC – being noise and landscape and visual aspects. The Applicant will update this before Deadline 10 to account for any update in discussion between the parties in advance of that hearing. The Applicant notes, however, that all other matters with statutory bodies are now essentially agreed, as reflected in the Statements of Common Ground submitted at this deadline. In that context, the closing submissions at Deadline 10 from the Applicant will only otherwise focus on summarising the cases it has already made in respect of issues raised by Mr. Hewitt, Just Transition Wakefield and Biofuelwatch and setting out the position on land matters.
R17QA.2	Applicant NGCL	At ISH1 it was stated that an application for the Humber Low Carbon Pipelines Development was expected to be submitted by NGCL mid-2023. Given the recent decision by NGCL to	There are currently ongoing discussions between Northern Endurance Partnership (NEP) and National Grid Carbon Limited (NGCL) with regards to the Humber Low Carbon Pipeline. Further information regarding timelines will be

ExA Ref (Applicant Ref)	Addressed to	Question	Applicant's Response
		leave the NEP, please provide an update on anticipated timescales for submission as a result.	forthcoming once negotiations have concluded. Please see text from the press release below: Ref: East Coast Cluster Press release - April 2023. 'In addition, NGV (National Grid Ventures) are in commercial discussions with NEP partners on the sale of the Humber onshore pipeline proposals. Subject to completion of the discussions, NGV will transition the Humber onshore CO2 system assets to the NEP which will continue to serve carbon capture projects across Teesside and the Humber. bp, currently the operator of the NEP Teesside onshore CO2 transportation system and the NEP offshore CO2 transportation and storage system would assume sole operatorship of the full, end-to-end NEP CO2 T&S system.'
R17QA.3	NGCL	Please provide the ExA with an explanation of why you consider Protective Provisions and an SoCG with NGCL is still necessary.	n/a
R17QA.4	Applicant	Please provide an update on any progress or discussions on the following and where you expect to be by the end of the Examination: i. Status of SoCG with NGCL. ii. Status of SoCG with NEP/ BP.	i. An updated SoCG with NGCL is submitted at Deadline 8, which confirms NGCL remain an interested party in relation to the Proposed Scheme, and that the Applicant will continue to negotiate the provisions with NGCL for the protection of the HLCP Project on a without prejudice basis to assist the ExA and Secretary of State. By the end of the Examination,

ExA Ref (Applicant Ref)	Addressed to	Question	Applicant's Response
		iii. Status of Protective Provisions with NGCL. iv. Status of Protective Provisions with NEP/ BP.	the Applicant expects this matter to be resolved and all matters to be agreed; ii. The Applicant does not intend to submit an SoCG with NEP/ bp during the course of the Examination. The Applicant previously noted at Deadline 6 that it may have been appropriate to progress a SoCG with NEP/ bp as they will be progressing the Humber Low Carbon Pipeline Project in the future, once the transfer of assets has been agreed with NGCL. However, it appears unlikely that the asset transfer process will be completed in time for such a document to be prepared before the end of the Drax BECCS examination. For this reason, the discussions are ongoing with NGCL and the SoCG with NGCL reflect this position. iii. For the reasons set out in Table 6-1 of the Applicant's Responses to Issues Raised at Deadline 6 (REP7-017) the Applicant maintains its position that protective provisions for NGCL do not need to be included in any Order made for the Proposed Scheme. The Applicant considers that the more appropriate mechanism to manage the interface between the Proposed Scheme and the Humber Low Carbon Pipelines (HLCP) is the HLCP DCO (as explained in REP7-017). The Applicant is aware of NGCL's position and has indicated to NGCL's legal representatives that it will continue to negotiate protective provisions on a without prejudice basis, in order to assist the ExA and Secretary of State should they

ExA Ref (Applicant Ref)	Addressed to	Question	Applicant's Response
			be minded to include protective provisions for NGCL in any made Order for the Proposed Scheme. iv. Given the transfer of the HLCP project to NEP / bp has not yet been completed, and the position with respect to a SoCG with NEP / bp as recorded above at ii, the Applicant is not currently in a position to be able to progress protective provisions with NEP / bp. As set out in the Applicant's response in Table 6-1 of REP7-017, the Applicant considers that protective provisions can be progressed as part of the HLCP DCO, including protective provisions that can be imposed on the Proposed Scheme.
R17QA.5	EA NE NYC	The Applicant has stated that there will be a two-year delay to the timescales identified in Table 2.1 of Chapter 2 of the ES [APP-038]. Are there any implications on survey work or conclusions that have been drawn as a result of this delay?	n/a

3. AIR QUALITY AND EMISSIONS

Table 3-1 – Air Quality and Emissions

ExA Ref	Addressed to	Question	Applicant's Response
R17QA.6	EA	The ExA notes that the Applicant's Statement of Commonality [REP7-014] states that the application for a variation to the EP was duly made on 18 May 2023. i) The EA is asked to answer questions AQ 1.3, 1.4, 1.5, 1.7, 1.9 and 1.10 from ExQ1 [PD-011]. ii) If the EA is unable to confirm its response to this for D8 to prevent pre-determining the EP application, the EA is asked to provide an indication of when during the EP determination process it is likely to be in a position to respond to the above. iii) If the EA is unable to respond by the end of the Examination, please provide confirmation that the matters	The Applicant is in regular dialogue and working proactively with the Environment Agency. The Applicant looks forward to future discussions with the Environment Agency leading to the determination of a variation to the Environmental Permit.

ExA Ref	Addressed to	Question	Applicant's Response
		will be covered and controlled by the EP application process	
R17QA.7	EA	The ExA notes that item ref. 4.3.1 of the SoCG between the Applicant and the EA [REP5-016] states the 15km study area size is agreed for ecological sites and ecological receptors. At D6, Biofuelwatch reiterated its concern from previous submissions that the study area size for assessing the effect on human receptors of nitrosamines and nitramines may not encapsulate the location of largest concentrations [REP6-034]. The Applicant explains in its D7 submission [REP7-017] (response ref. 5.1) that the maximum impacts are indeed encapsulated in the 15 x 15km study area and that modelling of impacts is increasingly conservative with distance from the stack. The EA is asked to confirm the following: i) Whether or not it is satisfied that the study area for	n/a

ExA Ref	Addressed to	Question	Applicant's Response
		assessing impact of amines and nitrosamines on human health does cover a large enough extent to assess the impact on human health. ii) If the EA is unable to confirm its response to this for D8 to prevent pre-determining the EP application, it is asked to provide its response at D9 or D10 at the latest, and/ or confirm that the matters will be covered and controlled by the EP application process.	
R17QA.8	Applicant EA	Biofuelwatch raised concern, both in its Written Representation [REP2-073] and again in its D6 submission [REP6-034], that there is no monitoring of existing emissions and background levels of amines/ nitrosamines. The ExA notes the Applicant's position in its D7 submission [REP7-017] that the assessment demonstrates that the impacts of amines can be screened as insignificant independently of background concentrations and the	The Applicant's assessment of the impact of nitrosamines does not rely on the assumption that the long-term average concentration at receptors is <75% of the EAL. The assessment acknowledges that there are no baseline measurements available for nitrosamines, whether as an entire chemical group or for the project-specific nitrosamines. i) As such, further acknowledging that NDMA (the specific nitrosamine for which the EAL was derived) is classified as a probable carcinogen, the assessment considered the possible incremental excess lifetime cancer risk from exposure to emissions from the Proposed Scheme.

ExA Ref	Addressed to	Question	Applicant's Response
		assessment of nitrosamines is based on an acceptable incremental risk. i) The Applicant is asked to confirm whether the ExA is correct in understanding that the assessment of nitrosamines relies on the assumption that the long-term average concentration at receptors in assessment year is <75% of the EAL? ii) Both the Applicant and the EA are asked if they have agreed the Applicant's approach and assumptions in the absence of measured background concentrations of amines and nitrosamines? iii) The EA is asked if an approach to establishing baseline operational monitoring for amines and nitrosamines, both for the proposed scheme and cumulatively with other emitters, will form part of the	This assessment is independent of the background concentration, which may be below or above the EAL since cancer risk is considered proportional to exposure and without a threshold value. Taking into consideration: a. the conservative nature of the assessment and, in particular, the assumption that all degradation products pose the same health risk as NDMA, b. the EAL being set at a concentration that is considered on the basis of current evidence to pose negligible cancer risk, and c. the contribution of the Proposed Scheme being approximately a factor of 10 below the EAL, it was concluded that the incremental risk from the Proposed Scheme will be very low and acceptable. This conclusion applies whether or not existing concentrations exceed the EAL. ii) The Applicant's approach is pragmatic in the absence of monitored background/baseline concentrations. The EA are fully aware of the lack of monitored baseline concentrations and have not proposed an alternative assessment methodology. iii) Any requirements for monitoring as part of the EP process will be determined by the EA and engagement with other

ExA Ref	Addressed to	Question	Applicant's Response
		EP process as is stated by the Applicant in paragraph 6.14.3 of ES Chapter 6 [APP-042]? iv) If the EA is unable to confirm its response on these matters for D8 to prevent pre-determining the EP application, it is asked to provide its response at D9 or D10 at the latest, and/ or confirm that the matters will be covered and controlled by the EP application process.	emitters in the region. At present, no practical field monitoring methodology has been identified. iv) n/a
R17QA.9	EA Biofuelwatch	The EA was asked at ExQ1 [PD-011] for its view of the Applicant's approach to the assessment of cumulative effects associated with amine compounds. The Applicant's position [REP7-017] (response ref. 5.3) in response to Biofuelwatch's concerns [REP6-034] regarding cumulative short-term impacts is that *'to exceed the maximum impacts presented in the ES, the meteorological conditions would have to be such that the near*	n/a

ExA Ref	Addressed to	Question	Applicant's Response
		maximum impacts from two plants will occur [...] at the location of maximum impact of the two or more plants in the same hour. This simply will not occur and does not warrant assessment.' i) The EA is asked if it agrees with the Applicant's approach on this matter? If the EA is unable to confirm its response on these matters for D8 to prevent pre-determining the EP application, it is asked to provide its response at D9 or D10 at the latest, and/ or confirm that the matters will be covered and controlled by the EP application process. ii) Biofuelwatch is asked if it is able to provide evidence to support its view that there are a range of meteorological conditions likely to exist under which less-than-maximum ground level impacts could combine to exceed the maximum	

ExA Ref	Addressed to	Question	Applicant's Response
		ground level impact for one plant?	
R17QA.10	Applicant	The ExA notes that the Applicant explains in [REP4-020] that the modelling for the mid-merit operational scenario explicitly includes partial operations when only the BECCS units are operating. Biofuelwatch in its D6 submission [REP6-034] reiterates its concern that aldehyde and nitrosamine concentrations from the BECCS units would increase at times that the non-BECCS units are not operating. i) Can the Applicant explain how, within the mid-merit scenario, the short-term concentrations of amines, nitrosamines and aldehydes differs between the times when only the BECCS units are operating and when the non-BECCS units are also operating? ii) Can the Applicant direct the ExA to where the increased short-term impacts when	i) To model the impacts of the Proposed Scheme on short term concentrations of amines and aldehydes, the Applicant has run the dispersion model, for 5 years of meteorological data, for the two relevant future scenarios: a) the scenario in which only the BECCS units are operating and b) the scenario in which the BECCS and non-BECCS units are operating. The impact has been assessed as the difference between either scenario a or b and the baseline operating scenario (4 x non-BECCS). This is akin to assuming that the worst case meteorological conditions could, in the future, coincide with either BECCS only or BECCS plus non-BECCS operation. Whether the worst case occurs under BECCS only operation or BECCS plus non-BECCS operation is both location and pollutant dependent. In general, the maximum ground level concentrations (process contribution, PC, anywhere in the study area) occur with both BECCS and non-BECCS units operating. However, impacts, defined for any pollutant concentration/deposition as Proposed Scheme minus Baseline operation at any given location, are dependent on both the absolute ground level concentrations with and without the Proposed Scheme and the spatial relationship between the maximum impacts under the proposed and baseline scenarios. As a result, maximum impacts occur with the operation of the BECCS units only since a spatial offset is introduced between the points of

<table>
<tr><th>ExA Ref</th><th>Addressed to</th><th>Question</th><th>Applicant’s Response</th></tr>
<tr><td></td><td></td><td>only BECCS units are operating are captured within the Applicant's assessment?</td><td>maximum impacts. Moreover, the difference between the impacts under the operating scenarios is greater for pollutants emitted solely as a result of carbon capture. (Note: there is no short term assessment undertaken for nitrosamines, since the EAL is a long term concentration).

To illustrate the above points, the tables below set out the maximum process contributions and range of impacts for hourly mean NOx concentrations, including interannual variability, and hourly mean aldehyde concentrations, for the mitigated mid-merit scenario.

For NOx, the maximum ground level process contribution (PC) with the Proposed Scheme is 4.58ug/m3 which occurs in 2018 with two BECCS and two non-BECCS units operating; the maximum impact is 2.55ug/m3 which occurs in 2016 with two BECCS units only operating. The maximum impact reported in Appendix 6.4 is, therefore, 2.55ug/m3.

<table>
<tr><td>NOx</td><td>2016</td><td>2017</td><td>2018</td><td>2019</td><td>2020</td></tr>
<tr><td colspan="6">Maximum Ground Level PC (ug/m3)</td></tr>
<tr><td>2 x BECCS + 2 x non-BECCS</td><td>4.46</td><td>4.55</td><td>4.58</td><td>4.38</td><td>4.56</td></tr>
<tr><td>2 x BECCS only</td><td>4.16</td><td>4.29</td><td>4.03</td><td>4.07</td><td>4.49</td></tr>
<tr><td colspan="6">Maximum Adverse Impact (ug/m3)</td></tr>
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ExA Ref	Addressed to	Question	Applicant's Response

A: 2 x BECCS + 2 x non-BECC	1.11	1.32	1.22	1.13	1.17
B: 2 x BECCS only	2.55	2.43	2.24	2.52	2.50
As Assessed for ES (Max of A and B)	2.55	2.43	2.24	2.52	2.50
Maximum Impact (Table 1.26, Appendix 6.4 of ES)	2.55 ug/m3; 1.3% of Objective				

For Aldehydes, the maximum ground level concentration and maximum impact are the same, since there are no aldehydes emitted in the baseline scenario. The maximum impact is 1.00ug/m3 and occurs in 2020 when only the two BECCS units are operating. The lower impacts that occur with the two BECCS+ two non-BECCS units are not reported in the ES since they are not the worst case.

Aldehyde	2016	2017	2018	2019	2020
Maximum Ground Level PC (ug/m3)					
2 x BECCS + 2 x non-BECCS	0.57	0.59	0.57	0.59	0.59

ExA Ref	Addressed to	Question	Applicant's Response

2 x BECCS only	0.97	0.94	0.87	0.97	1.00	
Maximum Adverse Impacts (ug/m3)						
A: 2 x BECCS + 2 x non-BECC	0.57	0.59	0.57	0.59	0.59	
B: 2 x BECCS only	0.97	0.94	0.87	0.97	1.00	
As Assessed for ES (Max of A and B)	0.97	0.94	0.87	0.97	1.00	
Maximum Impact (Table 1.31, Appendix 6.4 of ES)	1.00 ug/m3; 1.2% of EAL					

ii) All tables in Appendix 6.4 to the ES and Appendix 6.5 to the ES that relate to short term impacts (15min, hourly or daily impacts) relate to the worst case impacts, whether from BECCS alone or BECCS plus non-BECCS operation. (i.e. in Appendix 6.4, Tables 1.3, 1.4, 1.6 - 1.9, 1.15, 1.16, 1.18 - 1.22, 1.26, 1.27, 1.29 - 1.32, 1.35, 1.36, 1.38 -1.41; in Appendix 6.5, Table 1.2, 1.8, 1.14, 1.20).

The impacts for the operating scenario that does not give rise to worst case impacts have not been presented since, by definition, they are not the worst case impacts and it is the worst case that determines the significance/insignificance of the Proposed Scheme. It should be noted that under the

ExA Ref	Addressed to	Question	Applicant's Response
			nominal full load operation scenarios (as opposed to the mid merit scenarios) - for the assessment of short term impacts, it has been assumed that a small number of hours of operation with just BECCS units could occur.
R17QA.11	Applicant	The ExA notes the Applicant's response ref. 5.17 in Responses to Issues Raised at Deadline 6 [REP7-017] that it has never been asked to assess unmerged plumes. However, the Applicant is asked to clarify whether the emissions from the BECCS unit flues will behave differently from the emissions from the non-BECCS units due to different flow rate and temperature, impacting how well the plumes merge? And if so, would this change the results of the assessment?	Exhaust plumes from individual flues are likely to merge where their basic characteristics are similar and the flue exits are close i.e. within approximately one flue diameter of each other. Notwithstanding the reduction in exit volume flow and temperature, it is the Applicant's professional opinion that, given the proximity of the individual flues within the main stack, that the plumes are indeed likely to merge very shortly after exit and are best represented by a combined plume i.e. the exhaust plume diameter is 8m in both cases, the plume exit velocity is approximately 30 – 40m/s and the temperature is 373 – 417K. These are large plumes with similar physical properties which will rapidly expand and mix on exit from the stacks.
R17QA.12	Applicant	The ExA notes that the Applicant confirmed in Responses to Issues Raised at Deadline 6 [REP7-017] (response ref. 5.14) that the annual average impacts will not be perceptibly impacted by calm conditions. The applicant is asked:	i) The Applicant has not consulted EA on the approach to calm conditions. There were more than 99% of hours in the year during which the hourly mean impact could be modelled and contribute to the annual means and, as such, it was considered unnecessary to apply any special treatments. As such, consultation with EA was not required and not requested by the EA for the permit application.

ExA Ref	Addressed to	Question	Applicant's Response
		i) Whether its approach to the dealing with calm conditions in the air quality modelling has been agreed with the EA? ii) Whether including 0.7% of hours in the year as calm conditions would change any outcomes of the air quality assessment, and if so, how?	ii) There is a module within the ADMS model that allows modelling of calm conditions. Applying this module makes no difference to modelled maximum hourly mean concentrations and a marginal decrease in annual mean concentrations. This is because with the elevated plume from the Drax main stack, maximum concentrations occur at some distance from the stack and are unaffected by dispersion during calm conditions. It can, therefore, be concluded that consideration of calm hours will not impact on the assessment outcomes.
R17QA.13	EA	In its Written Representation [REP2-073] (paragraph 122) and again in its D6 submission [REP6-034], Biofuelwatch raised three questions relating to the regulation of amine emission rates, emissions temperatures and flow velocity. Could the EA provide a response to Biofuelwatch's questions as follows: *"Biofuelwatch requests that the Examining Authority asks the Environment Agency to:* *a) Confirm that it will regulate emissions to ensure that amine emissions rates will be no worse than*	n/a

ExA Ref	Addressed to	Question	Applicant's Response
		assumed by the applicant in the application (including after taking measurement uncertainties into account - see previous subsection) *b) Confirm that it will regulate the emissions temperature to ensure that the temperature will be no less than modelled by the applicant (because the temperature will impact buoyancy and dispersion)* *c) Confirm that it will regulate flow velocity to ensure that the velocity can be no less than modelled by the applicant (because the velocity will impact dispersion)".*	
R17QA.14	Applicant EA	In its D6 submission [REP6-034] Biofuelwatch reiterates a concern raised in its Written Representation regarding dioxin emissions. The ExA understands from the Applicant's responses to this issue at D4 [REP4-020] and D7 [REP7-017] that dioxin emissions are related to the existing process of biomass combustion and not the carbon capture plant.	i) The ExA is correct in stating that dioxin emissions are related to biomass combustion rather than the carbon capture plant. ii) In relation to the modelling of dioxins, the Applicant reiterates their response that an assessment of impacts is unnecessary.

ExA Ref	Addressed to	Question	Applicant's Response
		i) The Applicant is asked if it can confirm whether the ExA's understanding is correct? ii) The EA is asked if it agrees with the Applicant's position in [REP4-020] (response ref. 9.19) and [REP7- 017] (response ref. 5.30) that the assessment of dioxin emissions is unnecessary?	

4. BIODIVERSITY AND HABITATS REGULATIONS ASSESSMENT

Table 4-1 – Biodiversity and Habitats Regulations Assessment

ExA Ref	Addressed to	Question	Applicant's Response
R17QA.15	Applicant	Please can the Applicant confirm that the Barn Hill Meadows SSSI Technical Note will be submitted to the Examination, in addition to issuing it to NE.	The Applicant can confirm that Revision 01 of the Barn Hill Meadows Habitats and Soils Technical Note has been submitted at Deadline 8 (document reference 8.17). Its conclusions have been agreed by Natural England prior to this deadline, as recorded in the SoCG.
R17QA.16	Applicant	a) Can the Applicant confirm whether the delay in the construction programme of two years has any implications for the HRA? b) Paragraph 4.3.11 of the HRAR states that habitats affected by temporary works are expected to be reinstated by 2027. Is that according to the revised timetable?	a) The delay in the construction programme of two years does not have any material implications for the HRA, as the impacts of the Proposed Scheme that could affect European Sites and their qualifying features would not change. b) This text refers to the original programme. The Applicant is intending to update the HRAR at Deadline 9 to capture this and any other minor updates and corrections required since submission of the Deadline 6 HRA Report (REP6-021). The key principle is that the habitats will be restored as soon as possible after construction works at their location is completed.
R17QA.17	Applicant	HRAR Table 3.10 (Sediment Loading) [REP6-021] refers to visual disturbance in relation to development ID92, as does Table 3.12 (Noise and Vibration). HRAR Table 3.13 (Visual Disturbance)	The Applicant can confirm these are textual errors that will be corrected in an updated final version of the HRAR at Deadline 9.

ExA Ref	Addressed to	Question	Applicant's Response
		refers to loss or physical disturbance of functionally-linked land in relation to development ID7. Please can the Applicant confirm that these are textual errors.	
R17QA.18	Applicant	In relation to impacts on the Barn Hill Meadows SSSI, NE requires further information to rule out likely significant effects. The Applicant has stated that access is required to carry out further surveys. Can the Applicant confirm the timescales for gaining access onto the land and whether this is likely to be resolved before the end of the Examination. If this is not resolved, what are the implications for the application?	The Applicant has completed all survey work intended and has issued the Barn Hill Meadows Habitats and Soils Technical Note (document reference 8.17, Rev 01 being submitted into the Examination at Deadline 8) to Natural England in advance of Deadline 8. The Applicant and Natural England have now reached agreement that there will be no significant effects arising from cumulative air quality impacts on Barn Hill Meadows SSSI further to the conclusions of the note, as set out in the latest version of the SoCG between Natural England and Drax Power Ltd (REP5-017, Rev04 being submitted at Deadline 8).
R17QA.19	Applicant	Can the Applicant provide updated versions of [REP2-107] and [AS-015], as highlighted in Part 1 paragraph 1.4 of NE's D7 response [REP7-019].	The Applicant has provided revised versions of these documents at Deadline 8: HRA Appendix 7 (REP2-107, Rev02) and Appendix 6.5 (Operational Phase Air Quality Results Tables: Ecological Receptors) of the ES (REP2-035, Rev04).

5. DEVELOPMENT CONSENT ORDER

Table 5-1 – Development Consent Order

ExA Ref	Addressed to	Question	Applicant's Response
R17QA.20	Applicant	Given the potential uncertainty of the submission of the application for the Humber Low Carbon Pipelines Development and the lack of a requirement to ensure the carbon is permanently stored, is there a risk that the captured carbon dioxide could be used commercially and subsequently emitted into the atmosphere rather than permanently stored? How can the ExA be satisfied that the carbon will be permanently stored?	The Proposed Scheme is likely to be supported through the Government's Power BECCS Business Model, which is currently in development. Significant capital expenditure is required to construct the Proposed Scheme and as such it would not be economically realistic or feasible for the Applicant to begin construction of the main work packages comprising the Proposed Scheme without clarity as to development of the supporting pipeline and storage infrastructure. In turn, this clarity on development of supporting pipeline and storage infrastructure will likely need to be in place before any support mechanism for the Proposed Scheme can be finalised through the Power BECCS Business Model. As such, these commercial interdependencies and measures ensure that the Proposed Scheme will not be fully constructed and operational without increased certainty of T&S development. There is no proposal for storage of CO2 at Drax, nor to transport the CO2 other than by pipeline to its permanent storage location. It is for this reason that the Applicant does not consider a requirement is necessary. All a requirement achieves is a limit on Drax's flexibility to deliver the Proposed Scheme and

ExA Ref	Addressed to	Question	Applicant's Response
			contribute towards reaching the Government's, and the company's Net Zero targets. Chapter 4 of the Needs and Benefits Statement that is submitted with this DCO Application identifies the national, international and local policies that support the use of CCS technology. Government support for the use of biomass as a significant source of renewable and low carbon energy is confirmed at paragraph 3.4.3 of NPS EN-1 and the need for the use of CCS at paragraph 3.6.4. The need for CCS is reconfirmed in the emerging Draft EN-1. The need for biomass with or without CCS is established as urgent. The government also states that new CCS infrastructure will be needed to ensure the transition to a net zero economy (Draft EN-1, 2023, paragraph 3.5.1). Any requirement on the Proposed Scheme, of the type imposed in the Keadby 3 Order, could have the effect of potentially delaying the Proposed Scheme's delivery and therefore its contribution to the transition to Net Zero. Should the ExA and Secretary of State determine that a requirement is needed, contrary to the Applicant's position, of the style included in the Keadby 3 DCO, the Applicant has proposed a requirement in response to R17QA.21 below, which also further addresses the point raised here.
R17QA.21	Applicant	Given the decision by NGCL to leave the NEP and the lack of information before the ExA on the extent of the EP,	The Applicant has set out its position with respect to the imposition of a requirement above in response to R17QA.20 and previously at Section 2.1 of the Schedule of Changes to

ExA Ref	Addressed to	Question	Applicant's Response
		can the Applicant provide the ExA with an update on whether its current position on the imposition of a Requirement similar to R33 of the Keadby 3 Carbon Capture Power Station DCO as made should change. The ExA requests that the Applicant addresses each part of R33 in its response and explains its reasoning as to why that part should or not should not be included in a Requirement in the dDCO.	the Development Consent Order submitted at Deadline 2 (REP2-009). Whilst the Applicant accepts that circumstances have since changed slightly in light of the likely change in the promoter and operator of the HLCP, the commercial and practical considerations (as set out in response to R17QA.20 and in REP2-009) remain which would make a restriction of the type included in the Keadby 3 DCO unnecessary. The Applicant has in any event given consideration to what requirement it could accept should the ExA and Secretary of State be minded to impose such a requirement on any Order made for the Proposed Scheme. The rest of this response sets out what that proposed requirement is and addresses the differences between that requirement and R33 of the Keadby 3 DCO. In (REP2-009) the Applicant set out how the Proposed Scheme could be distinguished from Keadby 3 and explained how a requirement such as Requirement 33 from the Keadby 3 DCO would prevent the Applicant from carrying out early works to commence the Proposed Scheme. At 2.1.7 of (REP2-009) the Applicant identified likely early works that it would wish to undertake, which it considers would not cause any harm given any effects would be reversible (due to being short term temporary works undertaken within the boundary of the existing power station) and appropriate measures would be in place as set out in the Register of Environmental

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			Actions and Commitments. These works are set out below (referred to together as "additional permitted works"): a. Site establishment and mobilisation within the Drax Power Station Site, not including off site areas such as the woodyard or the East Construction Laydown Area (part of Work No. 5) to the east of the power station; b. Cooling water connection, cooling water pumphouse site preparation and civils works – forming part of Work No. 1B; c. Process steam site preparation and civils works – forming part of Work No. 1Ci; d. Absorber/quench site preparation and civils works – forming part of Works No. 1Di and ii; e. Reclaimer site preparation and civils works – forming part of Works No. 1D iii and iv; f. Compressor house site preparation and civils works – forming part of Work No. 1E; and g. Biodiversity enhancement early works – including enhancements to hedgerows and works along Pear Tree Avenue– forming part of Work No. 6. Should the ExA and Secretary of State be minded to impose a requirement, the Applicant would suggest a requirement similar to Requirement 33(1) from the Keadby 3 DCO,

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			tailored to the circumstances at BECCS including that the Applicant's position is that the "additional permitted works" should be permitted to be undertaken without being subject to such restrictions. The Applicant would therefore propose a requirement as follows: ***Defined terms**:* ***additional permitted works** means site preparation (including demolition) and civil works associated with Work Nos 1C(i), 1D(i), 1D(ii), 1D(iii), 1D(iv) and 1E and the carrying out of Work No. 6;* ***carbon dioxide storage licence** means any carbon dioxide storage licence required by Section 17 of the Energy Act 2008 or such other licence, authorisation or consent as may replace it;* ***development consent** means a consent granted pursuant to Sections 114, 115 and 120 of the 2008 Act (as may be amended or replaced from time to time);* ***environmental permit** means a permit granted for environmental permit variation application reference EPR/VP3530LS/V022 pursuant to the Environmental Permitting (England and Wales) Regulations 2016 (or any such licence, authorisation or consent as may replace it); and* ***carbon pipeline** means the onshore and offshore carbon dioxide transportation and storage infrastructure into which the authorised development will connect.*

ExA Ref	Addressed to	Question	Applicant's Response
			Draft Requirement: *—(1) No part of the authorised development is to commence, save for the additional permitted works, until details of the following have been submitted to and approved by the relevant planning authority—* *(a) evidence that development consent is in place for the construction of the carbon pipeline;* *(b) evidence that a carbon dioxide storage licence for the intended storage site for the carbon pipeline is in place;* *(c) evidence that an environmental permit is in place for Work No. 1; and* *(d) evidence of any pipeline works authorisation required by section 14 of the Petroleum Act 1998 for offshore pipeline works for the transport of the carbon dioxide transported by the carbon pipeline.* *(2) If the undertaker has undertaken any part of the additional permitted works and is unable to submit the information under sub-paragraphs (1)(a)-(d) on or before 31 December 2030 the undertaker must either:* *(a) within two months of 31 December 2030 confirm in writing to the relevant planning authority that it intends to carry out the authorised development within the following twelve months, and if so proposed timescales for any further additional permitted works*

ExA Ref	Addressed to	Question	Applicant's Response
			to be carried out and anticipated timescales for the commencement of the authorised development (save for the additional permitted works) in compliance with sub-paragraph (1); and *(b) submit to and obtain approval from the relevant planning authority for a revised phasing plan pursuant to Requirement 2 before commencing the authorised development (save for the additional permitted works); or* *(c) within two months of 31 December 2030 confirm in writing that it does not intend to carry out the authorised development (save for the additional permitted works already carried out) within the following twelve months, and submit to the relevant planning authority for approval a written plan setting out—* *(i) the existing status of the environmental baseline of the land on which the permitted preliminary works and additional permitted works that have been carried out pursuant to this Order; and* *(ii) how it is proposed that impacts to that environmental baseline are to be managed until a submission is made under sub-paragraph (3)(a) below.* *(3) -*

ExA Ref	Addressed to	Question	Applicant's Response
			(a) No later than each anniversary of the first confirmation of any information provided pursuant to sub-paragraph (2)(c), the undertaker must submit to the relevant planning authority either: *(i) the information required under sub-paragraph (2)(a) and (b); or* *(ii) the information required under sub-paragraph (2)(c), as applicable.* *(b) If information is submitted pursuant to sub-paragraph (2)(a) at any time, this sub-paragraph (3) shall no longer apply.* *(c) Nothing in this requirement [X] prevents the undertaker from seeking planning permission or utilising permitted development rights under the 1990 Act to carry out development in the land that is the subject of the information submitted under sub-paragraph (2)(c) and any such development will not constitute a breach of this requirement.* *(d) Nothing in this requirement [X] prevents the undertaker at any time from confirming in writing to the relevant planning authority that it does not intend to carry out the authorised development (save for the additional permitted works already carried out) at all, at which point the undertaker must, within two months of giving such confirmation to the relevant planning*

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			authority, submit to the relevant planning authority for approval a written plan setting out- *(i) the existing status of the environmental baseline of the land on which the permitted preliminary works and additional permitted works that have been carried out pursuant to this Order; and* *(ii) how it is proposed that impacts to that environmental baseline are to be managed for the long term.* *(e) Any plan submitted to the relevant planning authority pursuant to sub-paragraphs 2(c) or (3)(d) must be implemented as approved.* *(f) Sub-paragraphs (2) and 3(a) to (b) shall no longer apply from:* *(i) the date the undertaker either submits an application to the relevant planning authority for planning permission, or confirms to the relevant planning authority that it will utilise permitted development rights, to carry out development in the land that is the subject of the information submitted under sub-paragraph (2)(c); or* *(ii) the date the undertaker provides to the relevant planning authority confirmation pursuant to sub-paragraph (d).*

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			This proposed requirement mirrors Keadby 3 Requirement 33(1)(a) – (d) in that it restricts development until the events in (a) – (d) occur. The difference between the requirements is that the Applicant proposes that the additional permitted works would not be subject to the restrictions as, should the environmental permit and T&S infrastructure consents covered by (a) – (d) not be granted, no irreversible harm would have been caused if such additional permitted works have been undertaken. The requirement proposed by the Applicant addresses what would occur with respect to those additional permitted works should (1)(a)-(d) not occur or if there is any delay in those events occurring, in order to ensure the effects of the additional permitted works are addressed. The definition of the carbon pipeline does not specify the promoter / operator of the transport and storage infrastructure. This is in contrast to the definition used for Keadby 3 which expressly identified National Grid Carbon Limited and is therefore already out of date. The proposed definition reflects recent developments in this respect. Keadby 3 Requirement 33(2) requires that the land required for Work Nos. 1C and 7 (carbon capture equipment) is not disposed of and is not used in a way that prevents it being used within two years for the development of the carbon capture equipment. The effect of Requirement 33(3) is to ensure that the new gas generating station does not operate without the carbon capture plant. Both sub-paragraphs (2)

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			and (3) address the fact that the Keadby 3 DCO consents both a new gas fired generating station and carbon capture equipment, and are aimed at ensuring the generating station operates with CCS. This is not relevant to BECCS given the existing biomass generating station is already consented and in operation, delivers from sustainable biomass and not from fossil fuels and can continue to operate without CCS. A consequence of the anticipated change to the promoter and operator of the HLCP, is that the Applicant would also seek an extension to the time within which it can implement the Order. The Applicant therefore seeks that it has seven years within which to commence the authorised development and exercise its compulsory acquisition powers. The impacts of this extension are covered in the Applicant's Deadline 5 Submission - 8.14 Project Updates Arising From Government Publications on Energy Matters in March 2023 (REP5-029), which addresses impacts for the Environmental Statement of extended timescales for the Proposed Scheme (see Section 2.3). REP5-029 concludes that changed timescales for implementation would not change any conclusions in the Environmental Statement as submitted in May 2022, and this position has been agreed with relevant stakeholders. The Applicant has made this proposed change in the draft DCO submitted at Deadline 8. (note, the December 2030 date used in the requirement set out in this response reflects that this would be just prior to the expiration of a seven year

ExA Ref	Addressed to	Question	Applicant's Response
			implementation period, were the Order to be made in January 2024)
R17QA.22	Applicant	In Table 7-1 of the Applicant's Responses to Issues Raised at Deadline 6 [REP7-017], the Applicant responds to the Client Earth representations on Keadby 3 that Mr Hewitt submitted into the Examination at D6 [REP6-047]. Can the Applicant similarly provide its view on the Client Earth representations relating to the Net Zero Teesside examination that Mr Hewitt submitted into the Examination at D6 [REP6-046] and their relevance to the Drax BECCS dDCO?	REP6-046 raises similar points to those set out in REP6-047, which the Applicant has responded to at REP7-017. In addition, Client Earth's submission with respect to Net Zero Teesside was that the Net Zero Teesside generating station, once constructed and commissioned and brought into commercial use with the carbon capture plant, may not be operated so as to capture the carbon emissions generated (in other words, despite installing the carbon capture plant, the generating station could operate unabated). Reliance on these submissions in the context of the Proposed Scheme fails to appreciate the distinction between the consent sought for Keadby 3 and Net Zero Teesside (NZT) and what is sought for the Proposed Scheme. The biomass generating station at Drax is already consented and in operation and the application does not seek consent for it. The Keadby 3 Order granted consent for a new gas-fired generating station with carbon capture equipment (without which carbon dioxide from a fossil fuel would be emitted). The NZT application seeks a similar consent (amongst other things). In response to R17QA.20 & 21, the Applicant has made clear why a requirement akin to Keadby 3 Requirement 33 is not necessary, although it has set out a suggested requirement reflecting Keadby 3 R 33(1) (which is also consistent with Requirement 31(1) of the final draft DCO in the NZT

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			Examination) should the ExA and Secretary of State consider such a restriction is required. The Keadby 3 DCO and the final draft DCO in the NZT Examination both include a requirement that the generating station may not be brought into commercial use without the works comprising the carbon capture equipment also being brought into commercial use. Given the very different circumstances of the Proposed Scheme (as set out above), such a requirement is not suitable or appropriate for the BECCS Order. Neither the made DCO for Keadby 3 nor the draft DCO for NZT propose any further requirement of the kind sought by Client Earth, and similarly no such further restriction is justified in the case of the Proposed Scheme. The reason for this relies on other controls and considerations by way of the Environmental Permit and the BECCS Business Model. The Applicant maintains its position that operational arrangements for BECCS, including the requirements around CO2 capture rates, are more appropriately controlled by the Environmental Permit (EP) and that the imposition of a DCO requirement governing these matters would duplicate and potentially conflict with the conditions of the EP. NPS EN1 states that requirements should comply with 'The use of conditions in planning permissions: Circular 11/95' or its successor. The Planning Practice Guidance (updated 23 July 2019) now sets out the Government's policy for conditions, stating the same tests as those in NPS EN-1. The Applicant considers that a Requirement that duplicates the condition of

ExA Ref	Addressed to	Question	Applicant's Response
			an EP would plainly fail the tests of necessity and reasonableness. Furthermore, the potential for conflict with the EP (or at least the absence in the DCO requirement of the technical detail that would ordinarily be included in the EP) means the requirement is likely to lack precision such that it may be difficult to ascertain what must be done to comply with it. In terms of commercial considerations, the Government's Power BECCS Business Model will provide the supporting commercial framework to incentivise BECCS plants to deliver negative emissions. The Applicant's Deadline 5 Submission - 8.14 Project Updates Arising From Government Publications on Energy Matters in March 2023 (REP5-029) recorded the continued importance of and Government support for power BECCS, noting that in March 2023 the Government published its response to the Power BECCS Business model consultation. The Business Model is very much aimed at incentivising deployment of power BECCS which results in an overall net-negative removal of CO2 from the atmosphere. The Applicant would therefore be operating BECCS within the requirements of the EP and in alignment with the support mechanism that delivers the Business Model. Consequently the Applicant sees no reasonable basis for including a DCO Requirement regulating the need for the Proposed Scheme to operate with carbon capture and achieve a 95% capture

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			rate. That position is consistent with the Keadby 3 DCO and the final draft DCO on Net Zero Teesside.

6. FLOOD RISK AND WATER ENVIRONMENT

Table 6-1 – Flood Risk and Water Environment

ExA Ref	Addressed to	Question	Applicant's Response
R17QA.23	Applicant	The Applicant's response to ExQ1 FRW.1.8 [REP2-060] notes that the Applicant had submitted a request for information on private water supplies to from ERYC in relation to change PC02 and that it would provide an update, including an assessment of effects, at a subsequent deadline. This does not appear to have been received. Please could the Applicant provide such an update and assessment as necessary.	The Applicant provided an update on this matter in the Cover Letter submitted at Deadline 3 (REP3-014), item 16 of this letter states: *ERYC, as the responsible body, have now confirmed that there are no private groundwater abstractions in the Proposed Change (PC) 02 study area (within a 5 km search radius). Furthermore, the assessment had not identified any other receptors in the intervening period and therefore the assessment of potential significant effects remains as assessed in Table 6-1 (Water Environment) of the PCAR (AS-045). In summary, the conclusion on this aspect remains that no significant effects are expected and PC-02 would not result in any new or different significant effects from those described in the Environmental Statement."*