APPLICANT'S RESPONSES TO RELEVANT REPRESENTATIONS AND ADDITIONAL SUBMISSIONS

Drax Bioenergy with Carbon Capture and Storage

Document Reference Number: 8.3

Applicant: Drax Power Limited

PINS Reference: EN010120

REVISION: 02

DATE: January 2023

DOCUMENT OWNER: Drax Power Limited

AUTHOR: Various

APPROVER: Nicola Ashworth

PUBLIC

TABLE OF CONTENTS

TABLES

INTRODUCTION

PURPOSE OF THIS DOCUMENT

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 was accepted for Examination on 20 June 2022.

This document contains the Applicant's responses to the Relevant Representations that have been made by Interested Parties. It has been updated in January 2023 to respond to the request of the Examining Authority's in the Rule 6 Letter, which asked the Applicant to update that Tables 10.1 to 22.1 to make it clear which Relevant Representations / Additional Submissions are being responded.

A total of 277 relevant representations were submitted to the Examining Authority. All the relevant representations received have been reviewed and this report provides the Applicant's consolidated response to the issues raised. In the interests of completeness this document also now incorporates responses to two Additional Submissions (Document Refs. AS-040 and AS-043) which were accepted by the Examining Authority following the submission of the Applicant's original response document. A reference (in Row 5.8 of Table 5) has also been corrected.

This document therefore supersedes the Response to Relevant Representations Document (Ref AS-038) that was submitted by the Applicant in November 2022 .

This report provides the Applicant's response to the key issues raised by Interested Parties in their relevant representations.

For key statutory bodies, individual response tables have been provided. For all other parties, the document is structured on the basis of tables relating to key topics, with the reference number of the Relevant Representations that have raised the issues now identified in the Relevant Representation Reference Number column that has been added.

These tables do not provide a direct response to each individual relevant representation in relation to each topic, but rather identifies key issues on a thematic basis within that topic and provides a response to these issues, while also identifying the interested parties who have raised them.

THE USE OF BIOMASS

Concerns in relation to the use of Biomass have been raised a number of times by Interested Parties in their Relevant Representations.

The Proposed Scheme, described in detail in Chapter 2 (Site and Project Description) of the Environmental Statement (ES) (APP-038), comprises the installation of post-combustion carbon capture technology to up to two existing biomass power generating units (Unit 1 and Unit 2) at Drax Power Station.

Paragraph 2.1.5 of Chapter 2 of the ES (APP-038) confirms that Units 1 and 2 (as well as Units 3 and 4) are already operated using biomass, with operations controlled under the provisions of several Environmental Permits required by the Environmental Permitting (England and Wales) Regulations 2016 (paragraph 2.1.10).

As such the principle of using biomass is not within the scope of the application, which, as set out above, relates to the installation and use of carbon capture technology.

Notwithstanding this, the Applicant notes that support for the principle of using biomass is a well-established part of both the existing National Policy Statement (NPS) ('*the ability of biomass and EfW to deliver predictable, controllable electricity is increasingly important in ensuring the security of UK supplies'* (HM Government, 2011. Overarching National Policy Statement for Energy EN - 1.) and the emerging NPS '*The combustion of Biomass for electricity generation plays an important role in meeting the UK's energy needs and supports the decarbonisation of the sector'* (HM Government, 2021. Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)).

The December 2020 Energy White Paper further confirmed that: *'Biomass is unique amongst renewable technologies in the wide array of applications in which it can be used as a substitute for fossil-fuel based products and activities, from power generation to hydrogen production and even new forms of plastics. Along with its ability to deliver negative emissions, this makes biomass one of our most valuable tools for reaching net zero emissions.'* (HM Government, 2020. Energy White Paper).

Whilst the use of biomass is outside of the scope of the Proposed Scheme, in order to be as constructive as possible at this early stage of the DCO process, the Applicant has responded to the matters raised by Interested Parties in relation to the use of Biomass.

In the rest of the Examination process, it is the Applicant's intention to focus on matters that are within the scope of the application and not on the principle of the use of biomass at Drax Power Station. Further, the Applicant considers that argument as to the pros and cons of biomass is not in itself an important and relevant consideration to the acceptability of the Proposed Scheme (for the purposes of Section 104 of the Planning Act 2008), as:

- the benefits and impacts of biomass supply are not the benefit and impacts of the Proposed Scheme – the latter relating to the application of carbon capture technology;
- the biomass operation is already consented and any refusal of the Proposed Scheme would not stop that continuing to be the case – biomass could still operate at Drax Power Station; and
- the Applicant could choose to continue to operate the biomass without the application of carbon capture technology even if the Proposed Scheme is consented and so any controls in the DCO would become irrelevant.

On this basis, the Applicant considers that matters relating to biomass supply, including its sustainability, should not form part of the 'Principal Issues' examined in the Examination of the Proposed Scheme.

NORTH YORKSHIRE COUNTY COUNCIL AND SELBY DISTRICT COUNCIL

Table 2.1– North Yorkshire County Council and Selby District Council Joint RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
2.1	The following representation is made on behalf of North Yorkshire County Council (NYCC) and Selby District Council (SDC) only. It is likely that further submissions and in particular the Local Impact Report and Statement of Common Ground will be prepared jointly between NYCC and SDC.	Noted.
2.2	The Authorities have no strategic concern and are supportive of the project in principle. The consultation with the Authorities has been good and importantly, it is felt that the Applicant has taken on board comments from officers from earlier rounds of consultation. It is understood that design work is ongoing and we expect the dialogue to continue.	The Applicant notes and welcomes that the two local planning authorities (LPAs) are supportive of the principle of the project and that the Proposed Scheme reflects the earlier rounds of consultations.
2.3	It is understood the applicant is keen to submit an early draft of the Statement of Common Ground. Whilst there are still areas of discussion, we are confident any issues will be worked through in an effective way. The following represent the current position from key service areas.	The Applicant is keen to submit an early draft of the Statement of Common Ground (SoCG) with the two LPAs, and has been liaising with them over the document. Discussions will continue and the Applicant is submitting an early first draft of the SoCG with the LPAs alongside this document in November 2022, as requested by the Examining Authority.
2.4 Air Quality	Paragraph 6.9.12 of Chapter 6 of the Environmental Statement sets out that a Construction Environmental Management Plan (CEMP) is to be produced for the proposed scheme based on measures set out within Appendix 6.2, which defines the threshold of acceptability and proactive monitoring strategy. It is considered that this is a suitable approach to mitigating amenity impacts from dust during the construction phase.	The Applicant notes and agrees with the LPAs that using the CEMP to embed the mitigation measures set out in Appendix 6.2 (Construction & Decommissioning Dust Assessment) (APP-126) is a '*suitable approach'* to mitigating impacts on amenity during the construction phase. Requirement No. 14 of Schedule 2 of the draft DCO (OD-002) requires that '*no part of the authorised development must commence'* until a Construction Environmental Management Plan (CEMP) for that part has been submitted to the relevant planning authority and approved. It is therefore considered that a suitable and robust mechanism for mitigating amenity impacts during the construction phase is secured.
2.5 Noise and Vibration	Paragraph 7.5.53 of Chapter 7 of the Environmental Statement - Operational noise level assumptions are set out within Table 7.14 and, in the event of deviations to such, a similar configuration of values will be achieved through a series of mitigation measures. This is considered to be a pragmatic approach to ensuring consistent operational noise emissions.	The Applicant notes and accepts that the two LPAs consider that the measures and assumptions set out in Chapter 7 (Noise and Vibration) of the ES (APP-043) comprise a *'pragmatic approach'* to ensuring consistent operational noise emissions. Requirement No. 17 of Schedule 2 of the draft DCO (OD-002) requires a noise mitigation scheme to be submitted to and approved by the relevant planning authority. This scheme will contain details of how the design has incorporated noise mitigation measures for work nos. 1 (carbon capture plant), 2 (infrastructure to transport compressed CO_2) and 3 (supporting works), to ensure that the operational noise rating levels will not be exceeded. It is therefore considered that a suitable and robust mechanism for mitigating noise impacts during the operation phase is secured.
2.6	With reference to Table 7.26, adverse operational noise impacts are identified during the night-time period at receptors R6 and R14. Contextual considerations are put forward	As confirmed at paragraph 7.9.20 of Chapter 7 (Noise and Vibration) of the ES (APP-043), once the identified contextual factors have been considered (see paragraphs 7.5.46

Response Ref.	Relevant Representation Comment	Applicant's Response
	(7.9.15-7.9.20), notably no exceedance of ambient LAeq,T values, widespread compliance with BS8233:2014 design criteria and use of conservative background LA90,T values. However, there is uncertainty regarding good acoustic design within this section in terms of efforts to incorporate noise mitigation measures as set out within Section 7.5.53 when seeking to avoid adverse noise impacts at all sensitive receptors.	and 7.5.63), the initial impact estimations indicated in Table 7.26 are held to be not significant. Requirement 17 of Schedule 2 of the draft DCO (OD-002) requires a noise mitigation scheme to be submitted to and approved by the relevant planning authority containing details of how the design has incorporated noise mitigation measures for work nos. 1 (carbon capture plant), 2 (infrastructure to transport compressed CO_2) and 3 (supporting works), to ensure that the operational noise rating levels will not be exceeded. This scheme will include measures to mitigate noise impacts on receptors R6 and R14 to ensure that the noise rating levels set out in Table 1 of Requirement 17 for those receptors are not exceeded. The Applicant is also obliged to implement the mitigation scheme, as approved. The relevant planning authority therefore has an opportunity to ensure that a good acoustic design is achieved during the detailed design stage. As such, it is considered that a suitable and robust mechanism for mitigating noise impacts during the operation phase is secured via the DCO. As Requirement 17 secures the operational noise rating limits, which must not be exceeded at the receptors assessed in the ES, this is effectively a catch-all to ensure that no significant adverse noise effects occur.
2.7	With reference to Table 7.20, BS5228 ABC assessment methodology is adopted and the relevant categories at the receptors are well defined, albeit based on long-term ambient LAeq,T values presumably over 16hrs. There is a need to define the time period over which ABC LAeq,T values apply. Whilst long average target noise criteria are typically appropriate for general construction work, applying this to high impact activities will likely be to the detriment of residential amenity. This is acknowledged within BS5228-1:2009+A1:2014 which states that impulsive noise cannot always be controlled effectively using a long LAeq and instead suggests specifying a short LAeq or looking to control maximum levels (LAFmax). Therefore, high-impact noise activities should be well defined, for example piling works, rollers and tunnel boring, and consideration given to a more representative LAeq,T for such works.	The assumption that construction noise values were calculated on a 16-hour time base is incorrect. Whilst it is more typical to base construction noise predictions on a 10 or 12-hour time base, the construction noise assessment in the ES is based on a worst-case scenario whereby all the construction activities considered in the assessment occur simultaneously for 100% of the assessment period (as described in paragraph 1.1.1. of Appendix 7.1 (Construction Noise and Vibration Assumptions) (APP-130)). This approach means that the average (LAeq,T) construction noise predictions presented in the ES are equally valid for a shorter time period, representative of peak construction activities, than is suggested by the LPA. It is also noted that BS5228-1:2009+A1:2014 does not offer guidance on the assessment of maximum noise levels, LAmax; therefore, the methodology in the ES following a worst-case LAeq assessment of 100% of time is considered precautionary and appropriate.
2.8	With reference to Table 7.2, the applicant confirms that a Construction Environmental Management Plan (CEMP) will be prepared by the contractor, but there appears to be no further commitment to this within the report, only acknowledgment that noise monitoring should be carried out during the construction phase (7.14.1). This is critical in defining the finer detail such as construction techniques/equipment, compounds, proactive monitoring strategy etc.	Requirement 14 of Schedule 2 in the dDCO (OD-002) 'Construction environmental management plan' states that no part of the authorised development must commence until this document is submitted to and approved by the relevant planning authority for that part. It also states that the plan must be substantially in accordance with the Register of Environmental Actions and Commitments (REAC) (AS-092). Ref ID NV2 of the REAC states that Best Practicable Means (BPM) will be used to minimise the potential for significant effects during construction and sets out the measures that will be implemented.

Response Ref.	Relevant Representation Comment	Applicant's Response
		Furthermore, the REAC states in Ref ID NV3 that the construction noise monitoring records will demonstrate that the noise levels do not exceed the Significant Observed Adverse Effect Level (SOAEL) and requires construction monitoring proposals to be set out within the CEMP. The relevant planning authority therefore has the opportunity to consider and approve the CEMP prior to construction commencing, including with respect to the above measures in relation to measures to reduce noise during construction and relating to the Applicant's monitoring of construction noise.
2.9 Document ref. 5.4: Statutory Nuisance Statement	The term 'nuisance' is defined in case law as an unlawful interference with a person's use or enjoyment of land, or some right over it, or in connection with it (Read v J Lyons & Co. Ltd [1945]). This is often further defined as excessive and unreasonable impacts, in this case taking account of Best Practicable Means (BPM). Generally speaking, construction work within Core working hours is predominantly reasonable, however there is a lack of transparency when working outside of such hours and how necessary it is to carry out construction works during this time. It is a realistic scenario that a statutory nuisance could be substantiated as a consequence of carrying out construction works outside Core working hours unnecessarily, which is not reflected in the document.	The Applicant notes the LPA's view that the hours of work are considered to be predominantly reasonable, albeit that there are concerns over when work will be carried outside of core working hours and that these works may be carried out unnecessarily. The core working hours are set out in the REAC (AS-092). Ref ID G5 of the REAC confirms that work outside of these periods, including bank holidays, will be agreed in advance with SDC and NYCC. Furthermore, Ref ID G5 in the REAC has since been updated to align with Requirement 20(3) of the Drax Repower DCO to allow indoor construction out of hours given that noise levels would be the same as works which are already undertaken out of hours and therefore do not result in any further impacts. The approach to include this text was agreed with SDC and NYCC during a meeting in February 2022. This commitment will be secured by Requirement 14 of Schedule 2 of the draft DCO (OD-002), which requires that '*no part of the authorised development must commence'* until a CEMP for that part has been submitted and approved. The CEMP will include the commitment that work outside of these core working hours will be agreed in advance with SDC and NYCC.
2.10 Contaminated Land	Chapter 11 of the Environmental Statement and the associated Phase 1 Preliminary Risk Assessment (Appendix 11.1) provide a good overview of the site setting and its potential to be affected by contamination. An intrusive ground investigation and risk assessment is needed to assess the ground conditions and any potential land contamination. If significant land contamination is identified, then appropriate remedial action will be required to make the site safe and suitable for its proposed use and to protect other receptors from contamination. If the stated mitigation measures are implemented, it is agreed that no likely significant environmental effects on ground conditions are anticipated.	Noted and agreed, and the Applicant confirms this is secured via Requirement 12, Schedule 2 to the draft DCO (OD-002).
2.11 Heritage (SDC)	The Environmental Statement has included a Heritage chapter, it identifies Grade I and Grade II* listed buildings plus scheduled monuments. Grade II listed buildings do not appear to be shown on the designated heritage asset map (they are mentioned in the Heritage chapter being located in the 1km study area). Non-designated heritage assets have been identified. The viewpoint document shows how the new development will appear in context with the existing structures.	The comment is noted. The Applicant intends to reissue a version of the designated heritage asset map that includes Grade II listed buildings at Deadline 1.

Response Ref.	Relevant Representation Comment	Applicant's Response
2.12. Cumulative	It has been noted that 6.3.18.2 Environmental Statement - Volume 3 - Appendix 18.2 'Short List of Other Developments' only contains 46 schemes, while the Environmental Statement refers to 76 schemes. It is understood that the applicant is aware of this issue and is looking to issue a corrected version for consideration.	This comment is noted and it is confirmed that the formatting error has been amended and a new version was issued to NYCC/SDC and other consultees on 1 September 2022. The updated document was reissued to PINS on 7 October 2022 (AS-013).
2.13 Landscape and Visual Effects	The Authority is satisfied that the DCO Application includes an adequate Landscape and Visual Impact Assessment (LVIA).	Noted.
2.14	The 1960's mitigation planting aimed to provide a high-quality landscape, reduce visual clutter, create a tidy impression, and a transition between the Original Power Station and the surrounding landscape.	Noted; these historic strategies and principles were considered during design development, and current landscape proposals have been developed to satisfy existing planning requirements.
2.15	It is acknowledged that the original site planting has become eroded because of progressive changes to the footprint of Drax Power Station as development and technology changes. The condition of planting ranges from poor to moderate (ES 9.7.37).	Noted - we acknowledge that some of the original site planting has become eroded over time; however, this is not of direct relevance to the current assessment. New planting associated with the Proposed Scheme will be implemented to deliver the intended design outcomes and objectives and to be in accordance with the Landscape Specification. In addition, any new planting will be maintained to ensure successful establishment during the establishment period.
2.16	The importance of design quality, layout and landscaping schemes are recognised within National Planning Policy EN-1, EN-3 and NPPF.	Noted and agreed.
2.17	The Applicant has submitted a Lighting Strategy (Application Document 6.7) and a Design Framework document (Application Document 6.9) as part of the Application in order to guide detailed design, which are welcome. These are provided as supporting documents to the DCO Application and do not form part of the ES.	Noted and agreed.
2.18	Given the scale of the existing Drax Power Station Site and the significant changes that have taken place since the original landscape design, the Authority requested the Applicant begin work on an up-to-date design strategy for the site. The Authority is pleased to say that the Applicant has agreed to this and has consulted on early drafts of the design guide. The Authority welcomes the opportunity to work with the Applicant on detailed aspects of these guidance documents and to understand how opportunities could be secured through this Application, to ensure an appropriate response.	In response to this request from NYCC, the Applicant has undertaken work on good practice design principles for the wider Drax Power Station Site, some of which are relevant and applicable to the Proposed Scheme, and these are included in the Design Framework submitted with the Application (APP-195). The Design Framework also helped inform the set of design principles specifically for the Proposed Scheme, and these have been included in the REAC (AS-092) in Ref ID D1 which describes the design principles that will be followed in the detailed design. The measures in the REAC are secured via requirements in the draft DCO. Furthermore, the details of the Proposed Scheme that are required to be submitted for approval pursuant to the detailed design requirement (Requirement 6, Schedule 2 of the draft DCO (OD-002)) accord with these design principles. The Applicant's view is that these design principles (as established in the Design Framework, and which are relevant and applicable to the Proposed Scheme) are

Response Ref.	Relevant Representation Comment	Applicant's Response
		appropriate for securing the good quality and sensitive design of the Proposed Scheme. As such the relevant, applicable and necessary design principles have been applied or taken into account for the Proposed Scheme, and will be implemented to deliver the necessary outcomes that are pursuant to the detailed design requirements.
2.19 Cultural Heritage NYCC	I have reviewed the documents relating to Heritage on the PINS website including the Cultural Heritage Chapter of the ES and the supporting Historic Environment Desk-based assessment. I agree that the area within the curtilage of the current power station has a low archaeological potential. The proposed laydown area and environmental offset area to the east of the power station have been subject to previous geophysical survey and trial trenching. This has demonstrated that archaeological features of the later prehistoric or Roman period survive. The ES chapter and the Register of Environmental Actions set out a scheme of archaeological mitigation in the form of archaeological monitoring and recording prior to development. I support this recommendation which is a proportionate response to the expected significance of the archaeological remains. Other aspects of the proposal such as the continued us of a trackway through the Scheduled Monument and re-stocking of hedgerows are unlikely to have a significant impact on archaeological remains.	The Applicant notes that the LPAs agree with the content of Chapter 10 (Heritage) of the ES (APP-046) and its supporting documents. These comments have been added to the draft SoCG with NYCC and SDC, an early draft of which is submitted to the Examination alongside this document.
2.20 Ecology	The Authority is satisfied that the DCO application includes an adequate ecological impact assessment and biodiversity net gain assessment. A Habitat Regulations Assessment has also been provided which considers the significance of impacts upon European designated sites. The ES identifies that significant adverse effects as a result of the development would occur in the absence of mitigation or compensation. Areas of land have been identified within and outside the DCO area in order to provide mitigation, compensation and enhancement for habitats and species impacted by the development. Delivery of these measures is set out within the Outline Landscape and Biodiversity Strategy. The Biodiversity Net Gain assessment sets out where no net loss and net gain can be achieved, currently 10% gains are not achieved for all habitat types. It is understood that the applicant is still working towards achieving 10% in all areas and this is welcomed.	The Applicant notes that the LPAs consider that the Application includes an '*adequate'* ecological impact assessment and biodiversity net gain assessment. The Applicant also accepts the need to provide mitigation, compensation and enhancement for habitats and species impacted by the Proposed Scheme in order to offset adverse impacts. Details of these measures are set out in the Outline Landscape and Biodiversity Strategy (OLBS) (AS-094) and REAC (AS-092) which were submitted with the Application. This commitment will be secured by Requirement No. 7 of Schedule 2 of the draft DCO (OD-002) which requires that '*no part of numbered works 1, 2, 3, 4 (to the extent this work number involves the removal of hedgerows) 5 and 6 must be commenced until a written strategy for that part, which is substantially in accordance with the outline landscape and biodiversity strategy, has been submitted to and, after consultation with North Yorkshire County Council (unless the relevant planning authority is a unitary council replacing North Yorkshire County Council), approved by the relevant planning authority.'* The relevant planning authority therefore has the opportunity to consider and approve the Landscape and Biodiversity Strategy (LBS) prior to construction commencing. The Applicant's comments in relation to the provision of 10% Biodiversity Net Gain are set out at 5.23 of Table 5 within this document.
2.21 Minerals and Waste	Note that reference to the recently adopted Minerals and Waste Joint Plan (MWJP) has been referenced and relevant minerals and waste policies included in Chapter 13 – Minerals and Waste.	Noted and agreed.

Response Ref.	Relevant Representation Comment	Applicant's Response
2.22	In paragraph 13.7.12 it is noted that the site is within a Minerals Safeguarding Area (MSA). Paragraph 8.55 of the includes exemption criteria for MSAs one of which states 1. Redevelopment of previously developed land not increasing the footprint of the former development. This applies to the Drax Power Station Site.	The Applicant agrees with the LPA that this exemption applies to the application site and that as such there is no conflict between the Proposed Scheme and this Planning Policy. Paragraph 13.7.12 of the ES (APP-049) states that the mineral resources within the Order Limits are already constrained by the existing infrastructure and this has been taken into account as part of the environmental assessment. The Proposed Scheme does not increase the existing site footprint.
2.23	In paragraph 13.7.22 of the report it states that the capacity gap for recycling CDE waste is approximately 470,000 tpa by 2030, the adopted MWJP states that it would be 437,000 tpa by 2030. Please can figures be checked for accuracy.	Noted. The figure used was provided in the previous version of the MWJP. It is confirmed that the figure in the adopted MWJP does not affect the overall findings of the assessment.
2.24	The adopted MWJP also includes a range of Development Management policies which are relevant to this scheme, and should be included with other Local Plan policies in the relevant sections, one example is D06 – Landscape.	Noted. The development management policies relate to minerals and waste developments and mineral site reclamation. It is considered that these policies are not directly relevant to the Drax Power Station Site (as it is neither a minerals, nor a waste development), and therefore do not apply to the Proposed Scheme.
2.25 Local Highway Authority	The planning authority has consulted the Local Highway Authority (LHA) to comment on the environmental statement prepared for the project. The LHA notes that Drax Power Ltd already has a consented application to develop the site for an additional power generator with a new gas pipeline to feed the site. Therefore the highway authority is aware of the traffic related issues connected with the site and has a generally understand of the work both with the existing approved project and the new project which will generate similar volumes of traffic. The LHA understands that if this new project is approved the previous consented project will not progress.	The Applicant notes the Local Highway Authority (LHA) response and can confirm if the Proposed Scheme is consented, the previously consented Drax Re-power DCO will not progress.
2.26	The developer has outlined the approach to the project sighting severance, pedestrian amenity, fear and intimidation, highway safety and driver delay as major concerns which need to be investigated. The results have been included within the Environmental Statement and are shown on Table 5.3. The LHA is satisfied that the project will not have a significant impact on the highway network within North Yorkshire. Within the Environmental Statement the developer has also reviewed the local highway network in terms of capacities at junctions and the LHA is satisfied the road network will perform without significant issues.	The Applicant notes that the LHA is satisfied that the Proposed Scheme will not have a significant impact on the highway network within North Yorkshire and the road network will perform without significant issues. This will be reflected in the SoCG that will be submitted at Deadline 1.
2.27	The construction phase of the project will have the greatest impact on the network and the LHA will work with the developer to reduce numbers of HGVs where possible. The Environmental Statement suggests at the peak of construction some 270 HGVs will be travelling to and from the site. The LHA will expect the applicant to introduce measures in the Construction Management plan prepared for the site to reduce traffic congestion when possible. It is noted that Junction 4 on the M62 will be impacted most by the increase in traffic and the LHA would look to National Highways to reach agreement with the developer to reduce any impact which may affect road safety and traffic flows on the Motorway network. The applicant has prepared a framework Construction Worker Travel Plan	The Applicant acknowledges the LHA's request to develop the CWTP and CTMP to reduce and manage the impacts of the construction phase. The Applicant will continue to work with the LHA to ensure all appropriate details are included in the CWTP and CTMP. These plans are secured via Requirements 15 and 16, Schedule 2 of the draft DCO (OD-002), and require approval by the relevant planning authority following consultation with the highway authority and, in the case of the CTMP, National Highways.

Response Ref.	Relevant Representation Comment	Applicant's Response
	(CWTP) and a Construction Traffic management (CTMP) which the LHA seeks to develop with the applicant to avoid as much as possible congestion on the network and mitigate accidents which may be attributed to the increase in traffic around the site.	
2.28	The routing of abnormal loads to the site will close New Road from the M62. The Highway authority will expect this work to be managed by the developer and consult with LHA when such work is to be programmed. It is noted that routing of abnormal loads has been included in the CTMP. Work on the site is within its boundaries and therefore once materials are on site the expected work will not affect the traveling public on the highway network.	The Applicant notes and accepts the proposed approach by NYCC (Highways) and will consult with the LHA when such work is to be programmed (and obtain any necessary consents). The Applicant will continue to work with the LHA to ensure all appropriate details are included in the CTMP (an Outline CTMP was submitted in May 2022 (OD-009)).
2.29 Public Rights of Way	The Authority recognises the need to temporarily close 35.6/6/1. It will be necessary for the closure to be managed in accordance with local policy and legislation. The Authority looks forward to working with the applicant to ensure the necessary procedures are in place and secured through the DCO. There are minor items which may need to be discussed concerning the description of some of the routes effected. Overall the mitigation measures proposed seem appropriate to the scheme.	The Applicant welcomes NYCC's acceptance of the need to temporarily close Public Right of Way (PRoW) 35.6/6/1 and notes that overall NYCC consider that the mitigation measures proposed are appropriate to the Proposed Scheme. Discussions are ongoing with NYCC regarding the process to ensure the closure in accordance with local policy and legislation. The Applicant will continue to work with LHA to ensure they have all appropriate details required to address their concerns associated with the temporary closure of PRoW 35.6/6/1. These measures will be included within the final CTMP. The Applicant notes that the power in Article 12 of the draft DCO (OD-002) to temporarily close the PRoW also requires that the Applicant consult the street authority before doing so.

NATIONAL HIGHWAYS

Table 3.1– National Highways RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
3.1	Existing highway operation The Applicant should present collision data analysis for the period 2015-2019 to ensure that a full 5-year period, unaffected by the covid-19 pandemic, has been reviewed. National Highways would also note that the analysis provided by the Applicant does not include all recorded collisions on the SRN and further analysis is required to cover M62 Junction 36 and the M62 mainline east and west of the junction. Where a collision resulted in fatal or serious injury and/or where a cluster of collisions are recorded, National Highways requests that the causation factors be considered to identify any pre-existing trends that may be exacerbated by the proposal. We are confident that the surveyed traffic flows for M62 Junction 36 (2018) are robust given that a comparison has identified that traffic flows have reduced at this location between 2018 and 2022, and the daily traffic profile appears not to have materially changed.	The Applicant included a collision data analysis for the period 01 January 2017 to 31 December 2021 within the Traffic and Transport Chapter (APP-041) in accordance with the proposed transport scope as discussed and agreed with National Highways. Notwithstanding the agreed approach, the Applicant will undertake additional analysis to cover the study period and study area requested by National Highways. The analysis will be submitted to National Highways and it is anticipated this will not change the original conclusions set out in Chapter 5 (Traffic and Transport) (APP-041) of the Environmental Statement, given the limited number of construction traffic movements compared to baseline flows.
3.2	Operational Phase The Applicant has provided insufficient evidence to justify the stated number of workers. However, even if the number of staff were to be doubled the impact at M62 Junction 36 would be in the order of 48 two-way trips. On this basis, and considering the previous agreements at the pre-application stage, National Highways would agree that the trip generation associated with the operational phase of development is unlikely to generate a significant impact on the operation of the SRN during the AM & PM peak hour periods.	The Applicant notes National Highways agree that the trip generation associated within the operational phase of development is unlikely to generate a significant impact on the operation of the SRN during the AM & PM peak hour periods. It is considered that no further assessment of the operational impacts is required.
3.3	Construction Phase Clarification is required to confirm whether the worst-case peak for M62 Junction 36 has been assessed in the construction phase. If the worst-case peak has not been assessed, then further analysis will be required. The worst-case morning and evening weekday peak should be derived by considering the maximum combined base traffic flows and development traffic flows i.e., the worst-case peak period traffic flows may be outside of the traditional network peak. Hence, there may be a requirement to assess the shoulder peak periods of the worst-case peak periods. We accept that Construction Option 2 is predicted to generate a greater number of vehicle movements during the peak construction year than the corresponding peak construction year in Option 1. We note that for 29 continuous months (Jan-25 to May27) there are in excess of 100 two-way PCUs forecast to use M62 Junction 36 between 07:00 and 08:00. However, Option 1 also has the potential to create material impacts in different time periods. For example, there are	The Applicant notes National Highways require clarification that the worst-case peak for M62 Junction 36 has been assessed in the construction phase. The Applicant is reviewing the approach used to determine the peak hours and will clarify with National Highways whether the worst-case peak for the M62 Junction 36 has been assessed in the construction phase. The Applicant acknowledges National Highways comments in relation to Option 1. Chapter 5 (Traffic and Transport) of the ES (APP-041) assessed Option 2 as the worst case for traffic and transport. Option 2 is predicted to generate a greater number of vehicle movements during the peak construction year than the corresponding peak construction year in Option 1. When assessing the worst-case scenario for traffic and transport, it is considered that no greater adverse effects would occur if Option 1 was adopted. The Applicant also notes the acceptance of the growth factors used for the purposes of future year assessment. The Applicant notes National Highways' query regarding the sensitivity assigned to the M62 mainline. A low sensitivity was assigned on the basis of the type of user groups who may use it and the type of land uses the link passes through. This is also in line with IEMA guidance (1993) 'Guidelines for the

Response Ref.	Relevant Representation Comment	Applicant's Response
	forecast to be over 100 two-way PCUs using M62 Junction 36 between 07:00 and 08:00 for the following consecutive months: • 16 consecutive months from May 2025 – August 2026; and • 15 consecutive months from February 2028 – April 2029. We would note that 100 PCUs is an arbitrary benchmark for the purposes of comparison. This benchmark has no relevance to Policy and should not be used to justify the proposed development's impact. Consequently, we accept the proposal to assess Option 2 as an indication of greatest impact during any hourly peak period. However, a likely condition of the consent will relate to the preparation and agreement to Construction Phase Traffic Management Plan (CTMP) which will be directly related to the construction scenario that is selected by the Applicant; this is discussed later in this response. For the purposes of future year assessment, the proposed background growth factors are acceptable. We would also agree that M62 Junction 36 has a very high sensitivity, however, would state that both M62E and M62W may also be impacted during the construction phase and, as such, further justification should be provided to explain the suggested low sensitivity for the M62 mainline. The proposed construction phase trip generation and trip distribution are acceptable. However, we would request that the total vehicle trip generation is presented in Passenger Car Units [PCUs] such that the HDVs are properly accounted for. We would also reiterate that further clarification is required to confirm that the worst-case peak periods (and potentially the corresponding shoulder periods) for M62 Junction 36 have been assessed. National Highways is in the process of reviewing the submitted Junctions10 model for M62 Junction 36 and will provide our comments in due course. Hence, at this time, we would withhold any comments on the robustness of the model until we have reviewed the files. National Highways would also withhold comment on the submitted assessment until all inputs have been agreed (peak periods and Do Minimum mitigation). We would, however, state that the following guidance in the DfT Circular 02/2013 is relevant: *"Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed. However, development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe".*	Environmental Assessment of Road Traffic' that identify groups, locations and areas which may be sensitive to changes in traffic conditions. As such, the M62 mainline was assigned a low sensitivity on the basis that there are no sensitive locations adjacent to the M62 mainline, including hospitals, churches, schools or historical buildings and on the basis that pedestrians, cyclists and horse riders are prohibited from using motorways. We acknowledge that the M62 carries a large volume of traffic, and the Applicant will discuss the level of sensitivity assigned as part of the ongoing discussions with National Highways. The Applicant notes National Highways' comments regarding the calculation of Passenger Car Units but disagrees with this alternative proposed methodology to calculate Passenger Car Units. The traffic survey data which was provided to the Applicant by National Highways included conversion factors for Passenger Car Units consistent with the methodology we have applied in the Environmental Statement. Note these were not in line with TAG UNIT M3.1 as they now suggest. The Passenger Car Units presented in the Environmental Statement are also consistent with those typically applied to local junction modelling as opposed to the values in TAG UNIT M3.1 which is recommended to be applied to strategic highway assignment models. The Applicant considers the use of the Passenger Car Unit values presented to date in the Environmental Statement to be appropriate and reasonable and therefore, all HDVs have been accounted for. Nationals Highways (through their consultants, Jacobs Systra Joint Venture (JSJV)) have reviewed the Junctions 10 model for the M62 Junction 36. These comments are being reviewed and, if accepted, will be incorporated into any subsequent sensitivity assessments. The Applicant acknowledges the extract from DfT Circular 02/2013 referenced by National Highways. However, the impacts of the Proposed Scheme traffic are minimal, and it is considered that the temporary construction phase impacts can be cost effectively mitigated through enhanced management of the construction traffic, with robust monitoring and reporting measures included in the outline CTMP (OD-009) and the (CWTP) (APP-120). The Applicant will continue to work with National Highways to ensure appropriate mitigation measures are in place. The Applicant is in discussions with National Highways about the above matters, as reflected in the SoCG submitted alongside this Relevant Representation response document.

Response Ref.	Relevant Representation Comment	Applicant's Response
3.4	<u>Decommissioning Phase</u> National Highways support the proposed approach to assess the construction phase and decommissioning together in terms of traffic impacts (due to a similar impact). However, we anticipate the need for the following planning condition: "*Unless otherwise agreed in writing by the Local Planning Authority in consultation with National Highways (or its successors) decommissioning of the development hereby approved shall not commence unless and until a Decommissioning Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority in consultation with National Highways (or its successors). Thereafter unless otherwise approved in writing decommissioning shall be undertaken in accordance with the approved plan."*	The draft DCO (OD-002) already includes a Requirement securing the provision of a Decommissioning Traffic Management Plan, and for this to be consulted on with National Highways. As such, the Applicant considers that no amendments to the DCO are required. This Requirement is included in the draft DCO (OD-002) as Requirement 15 under Schedule 2 – Requirements.
3.5	<u>M62 Junction 36 planned improvements</u> As requested in our meeting on 25/08/2022, please see the following evidence regarding the referenced junction improvements at the M62 Junction 36: • The scheme was derived as part of the East Riding of Yorkshire Local Plan which was adopted in April 2016. The scheme is currently under review, with modelling being carried out to understand whether the mitigation is still required (ERYC are currently doing the 5 year Local Plan review); • The East Riding Infrastructure Study (2014) was the driver for the mitigation and includes a description and very basic plans within Appendix G of Appendix E; and • Contributions have started to be collected by ERYC but remain well short of the cost of the scheme. Therefore, although committed within the ERYC Local Plan there are no timescales for delivery. Considering the above, we request that the ES assesses with and without the scheme in place (in the Do Minimum and, consequently, the DoSomething scenarios).	The Applicant notes the request to undertake a sensitivity assessment of the M62 Junction 36 with and without the ERoY improvement scheme in place (in the Do Minimum and, consequently, the Do Something scenarios). The Applicant has previously requested details of the improvement from ERoY during scoping discussions to allow such sensitivity testing to take place. The Applicant will follow up this request with ERoY and also seek the latest position on Local Plan junction modelling. Upon receipt of the details of the improvement scheme and the latest position on the Local Plan junction modelling, the Applicant will discuss the sensitivity test methodology with ERoY and National Highways.
3.6	<u>Construction Phase Traffic Management Plan</u> National Highways anticipate the need for the following planning condition to be attached to any granted DCO: 'Unless otherwise agreed in writing by the Local Planning Authority in consultation with National Highways (or its successors) no construction shall commence unless and until a Construction Phase Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority in consultation with National Highways (or its successors). Thereafter the construction shall be undertaken in accordance with the approved plan.'	The draft DCO (OD--002) already includes a Requirement securing the provision of a Construction Traffic Management Plan, and for this to be consulted upon with National Highways. As such, the Applicant considers that no amendments to the DCO are required. This Requirement is included in the draft DCO (OD-002) as Requirement 15 under Schedule 2 – Requirements.

Response Ref.	Relevant Representation Comment	Applicant's Response
	As a minimum, we would expect that the Construction Phase Traffic Management Plan address the following: • Details and maintenance of any construction traffic management signage; • Details and maintenance general road user management signage (e.g., Delays Likely and their duration); • The need for and details of any general road user diversionary routes; • A commitment to following due process regarding AILs; and • The need for and maintenance of temporary works (to be informed by the operational assessments).	
3.7	<u>AIL and Dilapidation Surveys</u> It is proposed that a Highway Condition Survey (HCS) will be carried out along the designated route for abnormal and indivisible loads (AIL) ahead of the first AIL delivery, and after the final AIL. This is with a view to any construction related defects being made good. We support this approach and would request that the surveys be provided to National Highways for review withing the Construction Phase Traffic Management Plan; a commitment to make good any defects should also be included in the plan. We would also request that the Applicant engages closely with National Highways before undertaking any surveys or other works on the SRN as such works are of high risk to road users, contractors, and National Highways operatives. The details of works, relevant safety risks associated with any works shall be identified, and appropriate mitigations shall be agreed with National Highways prior to commencement. No works to the SRN should be undertaken prior to an agreement with National Highways. We are open to holding further discussions regarding AIL deliveries and the proposed Statement of Common Ground.	The Applicant agrees with National Highways' approach to undertaking the Highway Condition Survey (HCS), including engaging closely with National Highways before undertaking any surveys or other works. The Applicant will work with National Highways to ensure appropriate details on this topic are included in an update to the outline CTMP (OD-009) to be submitted to the Examination in due course.
3.8	<u>Framework Construction Worker Travel Plan</u> A firm financial commitment should be made to specific incentives, rather than a description of potential example incentives. However, we accept that an agreement regarding the monitoring of construction worker traffic could be included in the Statement of Common Ground. If the construction site will have a capped number of parking spaces available to construction workers of no more than 450 spaces, then the proposed parking provision of 800 car parking spaces (500 standard spaces + 300 overflow spaces) should be justified or revised. The CWTP should also provide specific commitments to how the proposal to provide favourable parking locations for	The Applicant accepts the principle of monitoring construction traffic and through the Construction Worker Travel Plan (CWTP) (APP-120). This will be discussed with National Highways and JSJV and included within an updated CWTP submitted at Deadline 1. The construction site will have a capped number of parking spaces available for construction workers. The reference to 800 spaces is to maintain sufficient flexibility to allow the Applicant to continue to meet the operational requirements of Drax Power Station, such as maintenance outages, alongside the construction of the Proposed Scheme. This information on parking is set out in Section 4.1 of the CTMP (OD-009) but the Applicant will work with National Highways to ensure appropriate details on this topic, including details on enforcement of favourable parking locations for car sharers, are included in this document.

Response Ref.	Relevant Representation Comment	Applicant's Response
	those that travel to the Site with two or more passengers will be enforced and how many car parking spaces will be specifically allocated for only workers who car share. Subject to the impact at the SRN, there may be a requirement for National Highways to request that the arrival and departure movements for construction staff occur outside of the SRN peak periods. This could be achieved through the Construction Phase Traffic Management Plan	The Applicant considers that if arrival and departure restrictions are required to deal with SRN impacts, this will be able to be requested by National Highways when they are consulted on the CTMP pursuant to DCO Requirement 15.
3.9	<u>Environmental impacts</u> Whilst we would withhold comment on the effect on intimidation and fear until the impact of the Scheme at the SRN has been agreed upon, we would state that severance and pedestrian amenity are not matters for National Highways.	The Applicant notes severance and pedestrian amenity are not matters for National Highways, but will continue discussions to ensure that they have all the information they require to determine the effect of the Proposed Scheme on fear and intimidation on the SRN.

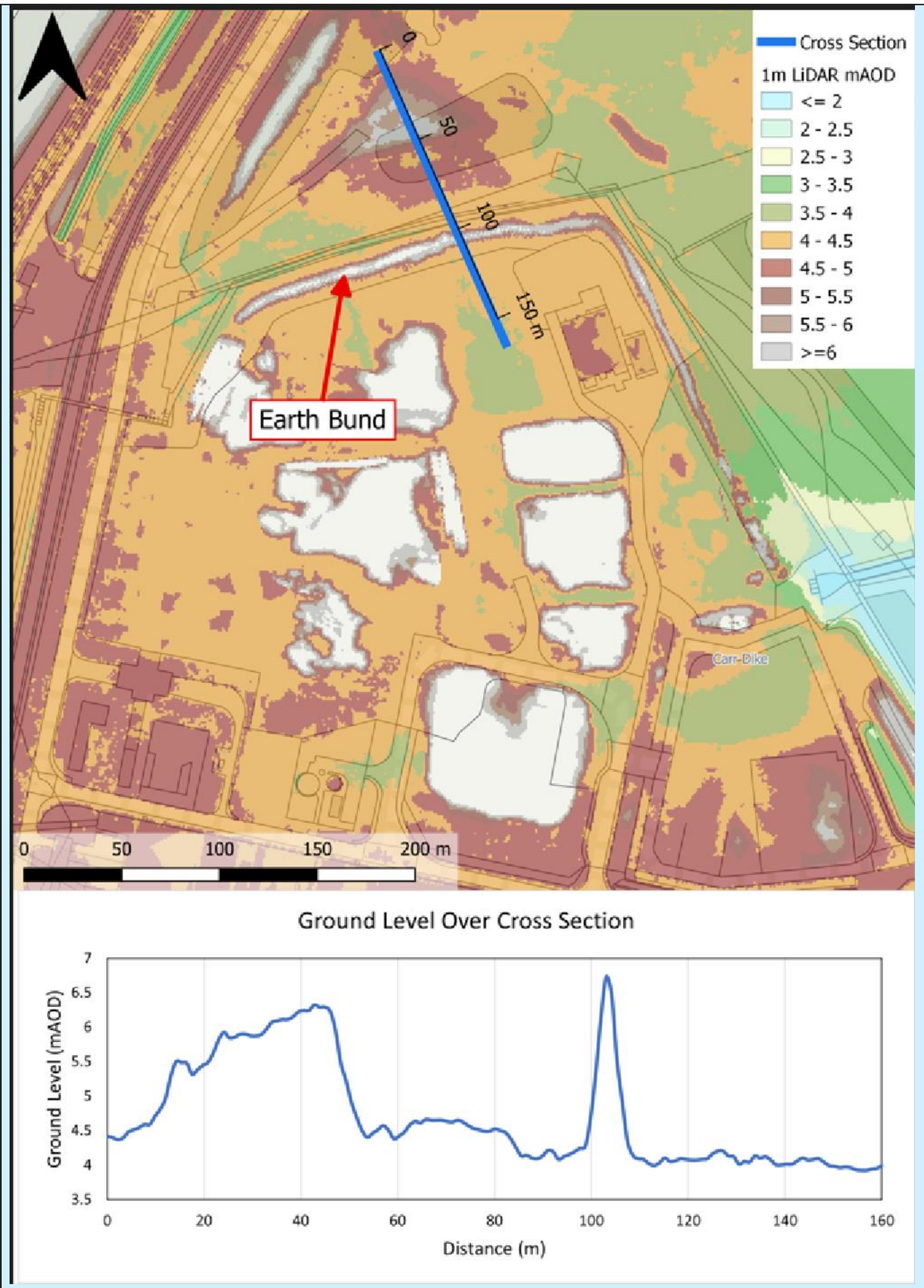
ENVIRONMENT AGENCY

Table 4.1– Environment Agency RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
4.1	Volume 1 – Chapter 12 Water Environment Section 12.2 Legislative and Policy Framework. The Water Resources Act 1991 Paragraph 12.2.12 states: Part III of the Act deals with control of water pollution, including the discharge consent system and water pollution offences, regulated by the Environment Agency. The text should be amended to state that Environmental Permitting Regulations (England and Wales) 2016 currently lay down the regime on water discharge permits.	The Applicant notes and acknowledges this to be the case but does not propose to update the Chapter for this matter, as it does not change the substance of what is considered in that chapter.
4.2	Within table 12.2 Elements Scoped Out of the Assessment it is stated that for Foul Water Treatment: No discharge to Yorkshire Water sewers during construction and / or operational phases is proposed. Foul water is to be treated at the on-site waste water treatment works which has sufficient headroom for the additional on-site workers during construction in a similar manner as it does for the planned shut down periods when a similar work force is on site. The Proposed Scheme would therefore not have impacts on the water environment. And for Changes to the nature of water discharge from Drax Power Station: No changes to the nature (water quality) of the water discharge from Drax Power Station is envisaged as the Proposed Scheme has been designed to ensure compliance with the limits of the existing environmental permit. These statements do not indicate that a new on-site wastewater treatment works is to be constructed and conflict with document 3.1 Draft Development Consent Order Schedule 1 - Work No. 1 (f) (viii) Work No. 1D common supporting infrastructure including - (aa) a wastewater treatment plant.	The Drax Power Station Site currently has two waste water treatment works (WWTW), one which treats with the flue gas desulphurisation (FGD) process water and the other which treats the remainder of the waste water (i.e. the "domestic" / non process waste water) generated onsite. It should be noted that the FGD WWTW will be demolished as part of the previously consented works, to enable the construction of the Proposed Scheme. The first quote provided by the Environment Agency refers to the "domestic" / non process waste water, which will all be treated in the existing operational on-site wastewater treatment plant referred to above and discharged to the River Ouse via the existing outfall. The second quote demonstrates that the existing operational on-site wastewater treatment works will continue to operate in accordance with the current constraints and comply with the existing permit. The dDCO (OD-002) refers to a new onsite wastewater treatment works, which forms part of the carbon capture process equipment and will deal with water from that process only. The carbon capture process will require process water (this will be obtained from the River Ouse, via the existing abstraction and sedimentation tanks). The Proposed Scheme is being designed with a water re-use philosophy at the centre, to minimise the volume of water which needs to be abstracted from the River Ouse. The used process water is split into two categories: • High grade – this is process water which can be recovered / treated to be reused in the carbon capture plant. This process water is therefore not discharged. • Medium grade – which is no longer of high enough quality for process use but can be recovered / treated into the cooling water systems (under normal operating conditions), under shut down (or other circumstances). When there is no requirement for cooling water, the treated effluent will be discharged to the River Ouse via the existing outfall in compliance with the Environmental Permit. The unrecoverable amines extracted during this treatment of the process water will be tankered offsite for treatment.

Response Ref.	Relevant Representation Comment	Applicant's Response
		As the Proposed Scheme will not result in adverse changes to the water quality discharged from the Drax Power Station Site, it is considered that the process water treatment works is appropriately considered within Chapter 12 (Water Environment) (APP-048).
4.3	Within table 12.2 Elements Scoped Out of the Assessment it is stated that the following are scoped out: The following Selby Area IDB drains surrounding Drax Power Station: Drax Abbey Drain, Sand Lane Drain, Hooks Field Drain, Long Drax Drain, Back Lane Drain, drains with reference 20/9,19/3, UN114, 18/1, 18/2, 18, 18/7, 18/9,18/10, UN109, UN110, 13/14, UN13/16 The reason given is that the drains are not connected hydraulically with the Proposed Scheme. This was a criterion for Scoping Out within the Scoping Report. However, Figure 12.3 Water Constraints Part 3, document number EN010120-PA-ES -6.2.12.3-Sheet1, shows that certain of those features are closely located to the site's boundary (e.g. Drax Abbey Lane) while many off those are within the 500m buffer zone. We do not agree these features should be scoped out and invite the applicant to discuss their decision with us as soon as possible.	To aid the Environment Agency in their understanding of these watercourses, additional figures have been produced (Appendix A of this document). Map 29 shows the water features in context of the Proposed Scheme and Maps 30 and 31 show the watercourses which are referred to by the Environment Agency in the immediate vicinity of the Proposed Scheme along with the constriction / laydown areas for context. These show that: *Drax Abbey Drain, Sand Lane Drain, Hooks Field Drain, Long Drax Drain and 20/9*– these drains are outside the catchment of the Proposed Scheme (including construction phase). The redline is in close proximity but only in relation to activities associated with biodiversity net gain which, in this area, are the planting of small trees (whips) only. It is anticipated that this would be undertaken by workers on foot or by small agricultural machinery to carry the trees and that the planting will be undertaken by hand. No impact to the drains is therefore anticipated, this will be managed through the inclusion of an appropriate measure within the CEMP. *Back Lane Drain, 19/3,* 18/1, 18/2, 18, 18/7, 18/9,18/10, UN109, UN110, 13/14, UN13/16 – no works are proposed in the vicinity of these drains, which are located up gradient of the Proposed Scheme, thus will not be impacted. UN114 – is downstream of Carr Lane Drain, which is assessed in Chapter 12 of the ES, this finds that there is no significant impact on Carr Lane Drain. An appropriate measure has been included within the updated REAC (AS-092), the measures within which are secured by requirements in the DCO including the requirement for a CEMP to be produced for the Proposed Scheme, at Ref ID WE14, which would ensure that the contractor is appropriately prepared to implement measures to contain and mitigate any contaminants which are accidently released to the water environment.
4.4	Also, within this table it is stated that: Drains within the boundary of Drax Power Station (reference SW20, SW21, SW22, SW38 on the Water Constraints map). The drains are part of the existing drainage system serving Drax Power Station. They are located greater than 500 m from the Proposed Scheme. These drains are also not hydraulically connected to the Proposed Scheme. However, in Section 12.7 Baseline Conditions, it is stated in paragraphs.12.7.11 and 12.7.12 that surface water run-off is managed by a drainage system and then discharged into Carr Dyke and the River Ouse. Therefore, there is potential for contaminants in particular silt and gravel during construction entering those waterbodies. We do not agree these features should be scoped out and invite the applicant to discuss their decision with us as soon as possible.	The drains referred to here are also shown in Appendix A of this document Drains within the boundary of Drax Power Station (reference SW20, SW21, SW22, SW38 are all located in the southern part of the Proposed Scheme, in this area the only works which are proposed are minor alterations to the highway to enable access by large loads, this is detailed in Environmental Statement Chapter 2 (Site and Project Description) (APP-038) which states: "*The AIL [Abnormal Indivisible Load] route would use the full width of the A645 carriageway and the Newlands Bridge over the River Aire. At the A645 / New Road roundabout, the AIL would travel west and then right into the South Entrance of Drax Power Station. Street furniture would need to be removed in the vicinity of this location, along with the clearance of vegetation and pruning.* *The Applicant would require certain highway powers in order to temporarily remove barriers, street furniture, overhead lines, communication lines, and carry out minor tree surgery including trimming back vegetation and pruning. The extent and duration of the road closures is to be determined, but in order*

Response Ref.	Relevant Representation Comment	Applicant's Response
		to minimise impact on local residents and businesses, it is anticipated that the largest AIL would be carried at off- peak times. Smaller AILs would not have the same impact." It is not considered that such works would impact upon the drains referenced by the EA, given their nature. Mitigation has been included in Ref ID 14 of the REAC (AS-092), the measures within which are secured by requirements in the DCO, that will ensure that the connectiveness of these watercourses are mapped, to ensure appropriate measures can be implemented should a spill event occur and spill kits are to be located at the Drax Power Station Site access point.
4.5	Table 12.6 Surface Water Features within the study area that have the Potential to be Affected by the Proposed Scheme. Several of the ponds within this table which have a recorded presence of Great Crested Newt are not considered as 'sensitive receptor'. We disagree with this as they may be a habitat of the Great Crested Newt, which is a protected species and therefore a 'sensitive receptor'. This issue has also been raised in the Additional Submission Document Ref AS-040.	Whilst these ponds could be considered as a sensitive receptor as the presence of Great Crested Newt has been recorded / provide suitable habitat, they are not likely to be affected by the construction of the Proposed Scheme given that they are separated from the Proposed Scheme and Construction Areas, by an earth embankment, as shown in the image below, which would prevent any pollutants / contaminants which are accidently released from the construction of the Proposed Scheme from reaching them.


Cross Section
1m LiDAR mAOD
<= 2
2 - 2.5
2.5 - 3
3 - 3.5
3.5 - 4
4 - 4.5
4.5 - 5
5 - 5.5
5.5 - 6
>=6
0
50
100
150 m
Earth Bund
Carr Bike
0
50
100
150
200 m
Ground Level Over Cross Section
Ground Level (mAOD)
7
6.5
6
5.5
5
4.5
4
3.5
0
20
40
60
80
100
120
140
160
Distance (m)

Response Ref.	Relevant Representation Comment	Applicant's Response
4.6	Section 12.9 Preliminary Assessment of Likely Impacts and Effects should clarify why from the surface water receptors identified as 'sensitive', only three are assessed in relation to increased pollution from silt and sediments. Similarly, not all of the waterbodies are assessed in relation to risk from accidental spillage of oil, hydrocarbons and hazardous substances. The applicant should confirm whether this implies that none of the other waterbodies will be affected, or whether they have not been assessed. This issue has also been raised in the Additional Submission Document Ref AS-040.	The Applicant would like to draw the Environment Agency's attention to Table 12.2 of Chapter 12 (Water Environment) (APP-048), which shows elements scoped out of the assessment together with the justification and Table 12.6 of Chapter 12 (Water Environment) (APP-048) which provides further justification for water features that did not require further consideration in the chapter. Maps 30 and 31 show the proposed Laydown Areas and the Proposed Scheme, this demonstrates that only the three waterbodies Carr Dyke, SW06, Carr Lane Drain are sufficiently close to be at risk from increased pollution from silt and sediment and at risk of accidental spillage of oil, hydrocarbons and hazardous substances. Carr Dyke – Is below and adjacent to the Proposed Carbon Dioxide Delivery Terminal and a construction compound. SW06 and Carr Lane Drain – adjacent to construction compound, SW06 forms the western boundary of the East Construction Laydown Area and Carr Lane Drain 15 m to the south of East Construction Laydown Area. The other surface water receptors are either minimum 150 m distance from the works areas and / or have large vegetated buffer strips ,which would reasonably be expected to trap / prevent any pollution / contaminants from reaching the watercourse with the risk of these incidents occurring minimised through the use of the CEMP. Therefore, the reasoning behind scoping them out remains valid under normal conditions. However, it is recognised that under extreme flood events, the flow direction in these watercourses may be altered due to the low lying flat nature of the catchment and the impacts that surcharge / locking of the outfalls may have. This could result in the excess flows, flowing in different directions in one or more of the watercourses, with the interconnected nature resulting in potential impacts on one or more watercourses, particularly if a pollution event was to occur. To offset this potential risk an appropriate measure is included within the REAC (AS-092) as Ref ID WE14, the mitigation within which will be secured by requirements in the DCO including a requirement to for a CEMP to be produced, to ensure that the contractor is prepared, through appropriate planning to implement measures to contain and mitigate any contaminants which are accidently released into the water environment. Great crested newts were found to be absent during targeted surveys within SW35 (Pond 5, noting that this is referred to as Pond 1 in the Amphibian Survey Report), although palmate and smooth newts were present. Great crested newts are unlikely to make use of Pond 1 as a breeding site and it is of limited importance to the wider great crested newt metapopulation but given its proximity to other ponds (with confirmed great crested newt presence) and connecting terrestrial habitat, periodic use cannot be ruled out. It is concluded that the pond is of limited importance and can be drained, should this be required at detailed design, subject to appropriate management procedures (detailed in the REAC Ref IDs WE8 and WE15, and GCN district level licence) being in place to avoid impacts on the water environment and ecology.
4.7	Volume 1 – Chapter 13 Materials and Waste	The Applicant welcomes and notes that the EA are satisfied with the approach and assessment.

Response Ref.	Relevant Representation Comment	Applicant's Response
	We have reviewed this chapter and are satisfied that the assessment has fully considered matters relating to our remit with regards to waste minimisation etc.	
4.8	Any material not deemed suitable for reuse on site, which therefore cannot be used in the CL:AIRE scheme, would be a "waste" and would require full assessment before being sent off site. There is a requirement to ensure the correct assessment of any waste produced. Correct assessment by suitable sampling procedures, would prevent misclassification of waste (specifically EWC Codes 17 05 04 and 17 09 04).	Noted. Waste classification and management procedures will be prepared and adopted during construction by the main construction contractor (once appointed), to ensure compliance with legal and good practice requirements. The need to submit a Site Waste Management Plan that will be used to manage and monitor site waste effectively with the overall objective to reduce waste and potential harm to the environment during construction is included in Ref ID MW3 of the REAC (AS-092), the mitigation within which will be secured by requirements in the DCO.
4.9	As part of the waste duty of care, a producer must classify the waste the business produces before it is collected, disposed of or recovered. This will identify the controls that apply to the movement of the waste, to complete waste documents and records, to identify suitably authorised waste management options and to prevent harm to people and the environment. The law requires anyone dealing with waste to keep it safe and make sure it's dealt with responsibly and only given to businesses authorised to take it. The code of practice can be found here: https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice/waste-duty-of-care-code-of-practice	Noted. Once appointed, the main construction contractor will be expected to prepare and implement a MMP and SWMP in accordance with legal and good practice requirements. These documents will classify and propose effective handling procedures for all arisings, to ensure sustainable resource and waste management. The need to submit a Site Waste Management Plan is confirmed in Ref ID MW3 of the REAC (AS-092), and a Materials Management Plan is confirmed in Ref ID G3.
4.10	Volume 3 – Appendix 12.1 Flood Risk Assessment The EA's current position on the flood risk assessment (FRA) has been stated considering the flood risk modelling results as submitted. The EA is unable to confirm that this modelling, submitted in support of the flood risk assessment, is fit for purpose. This is because the EA review of the modelling has not been completed and updates to the model may be required. The EA's overall position on flood risk may be subject to change if the model outputs differ in the future. The baseline modelling has been undertaken by the applicant and received by the EA. It is currently under review with the EA's Modelling team, with a formal response due to go back to the applicant early in September.	Since the Environment Agency prepared their relevant representation, they have undertaken a review of the hydraulic model and the Applicant has formally responded. It is the Applicant's position that no updates to the model will be required. At the time of writing, the Applicant is awaiting the Environment Agency to confirm this position.
4.11	The Environmental Statement, Volume 1 – Chapter 12 Water Environment, paragraph 12.10.35 and Environmental Statement, Volume 3 – Flood Risk Assessment, paragraph 7.1.13, state that floodplain compensation storage will be provided for the loss of floodplain. We are in ongoing discussions with the applicant with respect to flood risk, and with regards to the displacement of risk, and any compensatory storage that may be required (location and quantitative volume). Further information regarding this is to be submitted by the applicant following completion of the model review.	The Applicant remains in discussion with the Environment Agency with regard to the provision of floodplain compensation. The Applicant has advised the Examining Authority of their intention to submit a formal Proposed Change Request which includes details of the proposed Flood Compensation Area. If accepted into Examination, the FRA (APP-160) will be updated to require (secured through Requirement 11 of the draft DCO (OD-002)) this area to be implemented prior to the completion of construction, with the details of the works to be consulted upon with the EA before they are carried out.
4.12	The FRA contains much of the relevant information required to ensure that the development will be safe. Relevant mitigation with respect to flood risk is included	Noted, the Applicant expects that the completion of the hydraulic model review by the Environment Agency will enable this issue to be closed out.

Response Ref.	Relevant Representation Comment	Applicant's Response
	in sections 6 and 7 of the FRA and includes details for both the construction and operational phase of the development.	
4.13	The applicant should include further detail regarding the possible extension of the lifetime of the development and how this risk will be managed and mitigated for. The lifetime for the proposed development is 25 years. The applicant should look at what mitigation would be required, and its feasibility, should the development be extended beyond this. This is to ensure that should it continue beyond 25 years, the risks to and arising from, the development can be mitigated for.	The Applicant has considered this matter and provided information to the Environment Agency in relation to the risks and mitigation solutions available if the design life of the Proposed Scheme were to be extended beyond 25 years, and considers that the position on this will be able to be agreed with the Agency.
4.14	The applicant should provide clarification of the proximity of the works to the defences adjacent to the River Ouse. Any works (including hedging) within 16m of the toe of the landward side of the defence would require a Flood Risk Activity Permit. We note that the applicant is not seeking to disapply the Environmental Permitting (England and Wales) Regulations 2016 with respect to Flood Risk Activity Permits.	No works are proposed within 16 m of the toe of the landward side of the defences adjacent to the River Ouse, as detailed in Chapter 2 (Site and Project Description) of the ES (APP-038), which states that "*a 30m offset from the River Ouse has been implemented to avoid impacts related to the watercourse*"
4.15	The Biodiversity Net Gain (BNG) Assessment submitted records a baseline river unit value of 2.41 but fails to deliver any increase in river units. We would like to reiterate to the applicant that we expect a minimum of 10% net gain for each habitat type present on the site, and that this includes river habitat (River Units). We welcome the statement within paragraph 4.1.3 for us to be consulted with regards to meeting a 10% net gains in river units and note that this is also stated in the Environmental Statement, Volume 1, Chapter 12 Water Environment, paragraph 12.10.36. We support this approach and would recommend that we are consulted in relation to providing 10% net gain for river units as soon as possible. It is an important rule of the Natural England Biodiversity Metric that the three types of biodiversity units (Habitat Units, Hedgerow Units and River Units) are unique and cannot be summed, traded, or converted. When reporting biodiversity gains or losses within the metric, the three different biodiversity unit types must be reported separately and not summed to give an overall biodiversity unit value – i.e., a minimum of 10% net gain must be demonstrated for each of the biodiversity unit habitat types present on the development site. Any assumption that no enhancement is required for the river habitat, and that this can be justified by a lack of direct impact, is misplaced reasoning. BNG is primarily about enhancement, not mitigation, and so a lack of impact on a habitat doesn't omit the need for net gain within that habitat type. Where a habitat falls within a site boundary, BNG aims to leave it in a measurably better state than before (irrespective of impact).	The position in relation to River Units is set out in detail in the Applicant's response 5.23 and 5.24 in Table 5, below. These responses confirm that a solution to increase the number of rivers and streams units has been identified.

Response Ref.	Relevant Representation Comment	Applicant's Response
	Ideally, delivery of net gain for river habitat (River Units) should be delivered on-site, through improvements to this section of the existing watercourse. However, we recognise that this may not always be feasible/possible. Where necessary, off-site river habitat improvements can be used to off-set any losses and/or to deliver an overall net gain. Where a 10% net gain for a habitat type cannot be achieved on-site, off-site delivery locations should be sought before a commuted sum is agreed. Where necessary evidence that off-site locations have been sought and exhausted should be provided within the updated BNG assessment report. This issue has also been raised in the Additional Submission Document Ref AS-040.	
4.16	The Biodiversity Net Gain (BNG) Assessment submitted records a baseline river unit value of 2.41 but fails to deliver any increase in river units. We would like to reiterate to the applicant that we expect a minimum of 10% net gain for each habitat type present on the site, and that this includes river habitat (River Units). We welcome the statement within paragraph 4.1.3 for us to be consulted with regards to meeting a 10% net gains in river units and note that this is also stated in the Environmental Statement, Volume 1, Chapter 12 Water Environment, paragraph 12.10.36. We support this approach and would recommend that we are consulted in relation to providing 10% net gain for river units as soon as possible. It is an important rule of the Natural England Biodiversity Metric that the three types of biodiversity units (Habitat Units, Hedgerow Units and River Units) are unique and cannot be summed, traded, or converted. When reporting biodiversity gains or losses within the metric, the three different biodiversity unit types must be reported separately and not summed to give an overall biodiversity unit value – i.e., a minimum of 10% net gain must be demonstrated for each of the biodiversity unit habitat types present on the development site. Any assumption that no enhancement is required for the river habitat, and that this can be justified by a lack of direct impact, is misplaced reasoning. BNG is primarily about enhancement, not mitigation, and so a lack of impact on a habitat doesn't omit the need for net gain within that habitat type. Where a habitat falls within a site boundary, BNG aims to leave it in a measurably better state than before (irrespective of impact). Ideally, delivery of net gain for river habitat (River Units) should be delivered on-site, through improvements to this section of the existing watercourse. However, we recognise that this may not always be feasible/possible. Where necessary, off-site river habitat improvements can be used to off-set any losses and/or to deliver an overall net gain. Where a 10% net gain for a habitat type cannot be achieved on-site, off-site delivery locations should be sought before a commuted	The position in relation to River Units is set out in detail in the Applicant's response 5.23 and 5.24 in Table 5, below. These responses confirm that a solution to increase the number of rivers and streams units has been identified.

Response Ref.	Relevant Representation Comment	Applicant's Response
	sum is agreed. Where necessary evidence that off-site locations have been sought and exhausted should be provided within the updated BNG assessment report.	
4.17	In line with the CIEEM, CIRIA and IEMA 'BNG Good Practice Principles, No.10 - Be transparent', it would be useful if the full BNG metric assessment details, rather than just the headline figures, were provided for review as part of the DCO application.	Noted. The Applicant has committed to providing an updated BNG Report, which will include details of the BNG calculations. More details are provided in 5.23 of Table 5, below.
4.18	DRAFT DEVELOPMENT CONSENT ORDER Schedule 2 Requirements We are supportive of Requirements and request that the text 'approved by the relevant planning authority' is amended to read 'approved by the relevant planning authority and in consultation with the Environment Agency' in the following requirements: • 6(1) Detailed Design Approval • 7(1) Provision of landscape and biodiversity mitigation and enhancement • 12(1) and 12(3) Ground conditions • 14(1) Construction environmental management plan We would also wish to ensure that we are consulted on Requirement 18 – Decommissioning environmental management plan.	As the draft DCO (OD-002) is currently drafted, the Environment Agency is a consultee with respect to the requirement relating to surface water drainage, its consent is required with respect to any piling risk assessment, and its consent is required with respect to the discharge of water under Article 15 of the draft DCO (OD-002). The Environment Agency also approves the variation to the Applicant's Environmental Permit in connection with the Proposed Scheme. The Applicant proposes to amend requirements with respect to approval of the Construction Environmental Management Plan, ground conditions and the Decommissioning Environmental Management Plan, to include the Environment Agency as a consultee. The Applicant does not consider it is necessary for the Environment Agency to be consulted on detailed design or the written strategy relating to landscape and biodiversity. The Applicant considers that the Environment Agency's role is appropriately reflected in the above aspects where it will be a consenting authority or consultee.
4.19	We request that in Requirement 11 Flood risk mitigation, the text 'operated in accordance with the flood risk assessment.' is amended to 'operated in accordance with the approved flood risk assessment.'	The Flood Risk Assessment (APP-160) is a document that has been submitted with the Application, and is not required to be approved under the draft DCO (OD-002). The purpose of the requirement is simply to secure compliance with the Flood Risk Assessment (APP-160). The amendment proposed is therefore not necessary in this context. If the Proposed Change being brought forward by the Applicant is accepted into Examination, the Flood Risk Assessment (APP-160) will be updated to reflect the Proposed Change and the DCO (OD-002) will be updated to ensure that it is the updated FRA that is referred to.
4.20	6.5 REGISTER OF ENVIRONMENTAL ACTIONS AND COMMITMENTS Approval of documents We would expect that the actions within the register are updated to reflect the changes requested in our paragraph 4.2.1. Actions G3, MW1 and MW2 include the requirement for the Materials Management Plan (MMP) to be approved by the EA. The EA do not review or approve MMPs.	The Applicant notes this comment and Ref IDs G3, MW1 and MW2 have been updated in the REAC (AS-092) to reflect that the MMP is not approved by the EA. The updated REAC has been resubmitted alongside this Relevant Representation response.

Response Ref.	Relevant Representation Comment	Applicant's Response
4.21	We have held discussions with the Operator regarding the variation application process and have agreed, in principle, to accept a 'staged' application as defined in Section 5.13 of the 'Environmental permitting: Core guidance For the Environmental Permitting (England and Wales) Regulations 2016 (SI 2016 No 1154)'. The agreement is subject to the staged application containing sufficient information, in relation to the areas not being 'staged', for us to start the determination process, and the subsequent information provided in a timely manner according to a schedule agreed upfront.	The current position with the Environment Agency at the time of writing is that the Staged application approach has been accepted and that the application has been received by the Environment Agency. Discussions are now underway regarding the information which is required to move the application to a duly made status.

NATURAL ENGLAND

Table 5.1– Natural England RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
5.1	Natural England's advice in these relevant representations is based on information submitted by Drax Power Limited in support of its application for a Development Consent Order ('DCO') in relation to Drax Bioenergy with Carbon Capture and Storage Project ('the project').	Agreed and noted. The Applicant's responses to detailed issues are provided within this table (Table 5.1).
5.2	The project is unlikely to result in impacts from accidental releases of water-borne pollutants (Construction and operation phase) on Lower Derwent Valley SAC, River Derwent SAC and Humber Estuary SAC designated features, subject to the rigorous implementation of the mitigation measures specified within Section 12.10 of Chapter 12 (Water Environment) of Volume 1 of the Environmental Statement (ES) and the proposed Surface Water Management Plan, referenced in WE8 of the Register of Environmental Actions and Commitments (REAC) ('green').	Agreed and noted.
5.3	The project is unlikely to result in dust impacts (construction phase) on functionally linked land associated with the Lower Derwent Valley SPA/SAC/Ramsar, Humber Estuary SPA/Ramsar or River Derwent SAC, subject to the rigorous implementation of the mitigation measures specified within Section 1.3 of Appendix 6.2 (Construction & Decommissioning Dust Assessment) of Chapter 6 (Air Quality) in Volume 3 of the ES and AQ1 of the REAC ('green').	Agreed and noted.
5.4	The project is unlikely to result in visual disturbance impacts (Construction phase) on functionally linked land associated with Lower Derwent Valley SPA/SAC/Ramsar, Humber Estuary SPA/Ramsar or River Derwent SAC, subject to the rigorous implementation of the general mitigation measures specified within G5 of the REAC, detailed lighting measures in accordance with the Draft Lighting Strategy, and additional mitigation measures for otter specified in E4 of the REAC.	Noted; it is a requirement of the dDCO (OD-002) that implementation of mitigation measures will be undertaken as proposed, breach of which is an offence.
5.5	Natural England provided discretionary advice to WSP (on behalf of Drax Power Limited) on 5 May 2022 regarding the Agricultural Land Classification (ALC) Methodology Approach for the Drax BECCS DCO Application. Comment was also provided regarding the agricultural land and soils environmental impact assessment (EIA) methodology. It appears that the ALC report and EIA have not been updated in response to the discretionary advice (DAS) provided in May 2022, other than the provision of an ALC plan of the site (Figure 11.2).	The proposed assessment methodology was provided within the Scoping Report (APP-115). The response provided from Natural England within the S42 Response relating to agricultural land and soil quality stated the ES should include an assessment of: • *The degree to which soils are going to be disturbed / harmed as part of this development and whether "best and most versatile" agricultural land is involved.* • *If required, an Agricultural Land Classification (ALC) and soil survey of the land should be undertaken. This should normally be at a detailed level, e.g., one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e., 1.2 m.* • *The ES should provide details of how any adverse impacts on soils can be minimised.*

		Chapter 11 (Ground Conditions) of the ES (APP-047) incorporated this advice within the baseline and assessment. No comments were provided relating to the proposed assessment methodology. The DAS advice was provided on 5 May 2022 with the application submitted on 23 May 2022. Engagement from NE and via the DAS process was unfortunately received too late to be considered for incorporation into the ES. IEMA guidance regarding soils was published in March 2022. The assessment methodology had already been established through the Scoping Report and PEIR, and was too advanced in the ES process to apply this new guidance. See response to 5.7 below relating to EIA Methodology. See response to 5.6 below relating to ALC grading.
5.6	On the basis of the information submitted, Natural England is not yet satisfied with the following soils and best and most versatile agricultural land issues: The ALC Grade should be calculated for all agricultural land (or land which was last used for agricultural use) subject to proposed development or disturbance ('amber').	The Applicant intends to carry out further ALC surveys later this year, the results of which will be submitted at Deadline 1. The areas of current or former agricultural land which have been considered within the ES are: • The East Construction Laydown Area; • The On-site Habitat Provision Area; and • The fallow field within the off-site Habitat Provision Area. As stated within para 11.9.9-11.9.10 of Chapter 11 (Ground Conditions) of the ES (APP-047), the only area subject to proposed temporary land take is the East Construction Laydown Area. An ALC survey has been undertaken for this area (provided within Appendix 11.2 (Soil Resource and Agricultural Land Classification Survey) of the ES (APP-158)) and was found to comprise Grade 2 BMV (4.9 ha) and Subgrade 3b (non BMV) (2.2 ha) totalling 7.1 ha of agricultural land. The On-Site Habitat Provision Area is 5.05 ha and includes an approximately 3ha area currently used for agriculture (although is subject to seasonal flooding) with the remainder comprising hedgerows along field boundaries and Pear Tree Avenue. No development is proposed within this area. An ALC survey has not yet been undertaken in this area. However, extrapolating data from adjacent surveyed land (as stated in para 11.7.28 of Chapter 11 (Ground Conditions) of the ES (APP-047)) suggests this section of the Habitat Provision Area is of Subgrade 3b (non BMV). This will be confirmed through an ALC survey. A suitable habitat and landscaping plan will be developed for the Habitat Provision Area at detailed design stage as part of a detailed landscape and biodiversity strategy required by the DCO. This area is considered as an opportunity for environmental enhancement as it would be used for the creation of new habitats, enhancing existing habitats and connecting the wider landscape to provide additional opportunities for wildlife Therefore it is considered likely to improve soil health as the land will no longer be exposed to agricultural practices detrimental to soil health. The Fallow Field (Off-Site Habitat Provision Area) is approximately 2.2 ha and is not currently in agricultural use. No development (such as infrastructure placement) is proposed within this area. Habitat creation and enhancement has been proposed for this area including a translocation site for green-winged orchid *Anacamptis morio*

<table>
<tr><td></td><td></td><td>as part of the Outline Landscape and Biodiversity Strategy (APP-180). It is an area that comprises scrubland and grassland with bordering hedgerow boundaries and treelines. It has not been in use as agricultural land for a significant period of time. An ALC survey undertaken within this area classified it as Subgrade 3b (non BMV) – this will be included in the ALC report submitted at Deadline 1.</td></tr>
<tr><td>5.7</td><td>Additional information should be provided in the Environmental Statement Chapter 11 Ground Conditions – EIA Methodology (‘amber’).</td><td>A comparison of the methodology used within Chapter 11 (Ground Conditions) of the ES (APP-047) against the methodology outlined within the ICE (2019) EIA Handbook has been made.

A comparison has been done of the value (sensitivity) detailed within Table 11.5 - Classification of Value (Sensitivity) of Resources within Chapter 11 (Ground Conditions) (APP-047) relating to agricultural soils against sensitivity values outlined in Para 7.11.4 of the ICE (2019) EIA Handbook. This indicates there would be no change to the allocated resource sensitivity values if the methodology in the ICE EIA Handbook was adopted.
<table>
<tr><td></td><td>Ch 11 Table 11.5 Sensitivity (Using DMRB LA 109)</td><td>ICE (2019) EIA Handbook Sensitivity</td></tr>
<tr><td>Very High</td><td>ALC Grade 1 and 2</td><td>ALC Grade 1 and 2</td></tr>
<tr><td>High</td><td>ALC Subgrade 3a</td><td>ALC Subgrade 3a</td></tr>
<tr><td>Medium</td><td>ALC Subgrade 3b</td><td>ALC Subgrade 3b</td></tr>
<tr><td>Low</td><td>ALC Grade 4 and 5</td><td>ALC Grade 4 and 5</td></tr>
</table>
A comparison has been done of the magnitude of impact detailed within Table 11.6 - Classification of Magnitude of Impact (Change) within Chapter 11 (Ground Conditions) (APP-047) relating to agricultural soils against magnitude of impact outlined in Para 7.11.4 of the ICE (2019) EIA Handbook. Terminology and assessment criteria differ between the approaches. An assessment is provided below.
<table>
<tr><td>Chapter 11 Terminology/ ICE (2019) EIA Handbook Terminology</td><td>Chapter 11, Table 11.6 Magnitude</td><td>ICE (2019) EIA Handbook Magnitude</td></tr>
<tr><td>Major/Very High</td><td>Loss of resource and/or quality and integrity of resource;</td><td>Loss or reduction of >20ha (Total of Grade 1, 2, 3a)</td></tr>
</table></td></tr>
</table>

			High	severe damage to key characteristics, features or elements; exposure to acutely toxic contaminants. Greater than 100 ha of BMV agricultural land.	Loss or reduction of 5-20ha (Total of Grade 1, 2, 3a)	
			Moderate	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements; short-term exposure to contaminants with chronic (long-term) toxicity. Between 50 and ≤100 ha of BMV land.	Temporary or potentially reversible development 5-20ha (Total of Grade 1, 2, 3a)	
			Minor/Low	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements. Between 20 and ≤50 ha of BMV agricultural land.	Permanent loss of less than <5 ha (Total of Grade 1, 2, 3a)	
			Negligible	Less than 20 ha of Best and Most Versatile (BMV) Agricultural Land.	N/A	
			The potential impact to agricultural land from construction activities is limited to the East Construction Laydown Area as it includes 7.1 ha of Grade 2 BMV (4.9 ha) and			

		Subgrade 3b (non BMV) (2.2 ha) agricultural land. During construction, agricultural soils within East Construction Laydown Area can be degraded due to construction activities without appropriate mitigation through compaction and erosion. The total area of agricultural land considered to be affected by the construction phase is therefore 7.1 ha. No construction or development is proposed for the Habitat Provision Area and fallow field (off-site Habitat Provision Area) both of which are classified as Grade 3b (non BMV). No change in the allocated sensitivities would be produced if the ICE (2019) EIA Handbook guidance were applied, the sensitivity remains unchanged (very high), the magnitude also remains minor adverse as the area of BMV affected by construction is 4.9ha of Grade 2. According to the ICE guidance minor magnitude relates to <5ha of permanent loss, however it should be noted the proposed land take of BMV is temporary. Due to the limited impact on BMV land from the Proposed Scheme (in particular no permanent loss of any BMV land), the effect using either methodology is always less than significant. The direct, temporary, long-term moderate or large effect (significant) prior to secondary mitigation is considered to remain unchanged when ICE EIA Handbook guidance is applied. Mitigation includes a Soil Management Handling Plan which has been included in the REAC within Ref ID GC2. The mitigation within the REAC will be secured by requirements in the DCO including the requirement for a Soil Management Handling Plan to be produced as part of the CEMP for the Proposed Scheme. The residual effect remains likely to be a direct, temporary, medium to long-term slight adverse effect (not significant) following the implementation of mitigation measures. Therefore, no change to the assessment would be produced by applying ICE (2019) EIA Handbook methodology.
5.8	Additional information should be provided regarding sustainable soil management in the Soil Handling Management Plan. Inappropriate soil handling is currently proposed for the Habitat Provision Area (‘amber’).	The requirement to produce a Soil Management Handling Plan has been included in the REAC within Ref ID GC2. The mitigation within the REAC will be secured by requirements in the DCO including the requirement for a Soil Management Handling Plan to be produced as part of the CEMP for the Proposed Scheme. Ref ID GC2 within the REAC has been updated in response to comments received from Natural England in their relevant representation and an updated version of the REAC (AS-092) has been resubmitted alongside this Relevant Representation response.
5.9	Natural England’s advice is that there are a number of matters which have not been resolved satisfactorily as part of the pre-application process that must be addressed by Drax Power Limited and the Examining Authority as part of the examination and consenting process before development consent can be granted, as summarised in Section 2 above and outlined in further detail in Part II below. Some of these matters are important enough to mean that if they are not satisfactorily addressed it would not be lawful to permit the project due to its impacts on the SAC, SPA, Ramsar and SSSI	Noted – the specific concerns are addressed below in 5.13, 5.14, 5.17 and 5.18.

<table>
<tr><td></td><td>interests. However, Natural England’s advice is that all of these matters are capable of being overcome. The specific concerns in relation to each are detailed in Part II.</td><td></td></tr>
<tr><td>5.10</td><td>Natural England’s advice is that in relation to identified nature conservation issues within its remit there is no fundamental reason of principle why the project should not be permitted.</td><td>Noted and agreed.</td></tr>
<tr><td>5.11</td><td>Natural England is not yet satisfied with the following biodiversity net gain issues: additional information is required in order to demonstrate that a 10% biodiversity net gain is achievable; river BNG units achieve no get gain in either of the scenarios currently presented; and clarity should be provided regarding impacts to habitats identified as habitats of principal importance (HPI).</td><td>Noted. Detailed comments are provided below in 5.21, 5.22, 5.23 and 5.24.</td></tr>
<tr><td>5.12</td><td>Natural England advises that, if approved, the project must be subject to all necessary and appropriate requirements which ensure that unacceptable environmental impacts either do not occur or are sufficiently mitigated.</td><td>Noted and agreed. Requirement 14 of Schedule 2 of the draft DCO (OD-002) requires the submission of a Construction Environmental Management Plan. It is therefore considered that a suitable and robust mechanism for ensuring that unacceptable environmental impacts either do not occur or are sufficiently mitigated.</td></tr>
<tr><td>5.13</td><td>Table 1: Natural England’s detailed advice<table><tr><th>Natural England key issue reference</th><th>Topic</th><th>Issue Summary (C) Construction phase (O) Operational phase</th><th>Natural England commentary and advice on the further information required to enable assessment</th><th>Natural England commentary and advice on the further information required to enable assessment</th><th>Risk</th></tr><tr><td>1</td><td>Internationally designated sites
• Humber Estuary SAC
• Humber Estuary SPA
• Humber Estuary Ramsar</td><td>Impacts from construction traffic emissions to air on Humber Estuary SAC/SPA/Ramsar designated features (C)</td><td>Natural England notes that the HRA 3.3.13 states “None of the proposed construction traffic routes pass within 200m of any European Site, with the exception of a short stretch of the M62 which passes within 200m of the upstream end of the Humber Estuary SAC, SPA and Ramsar and would likely be used by a proportion of HDV traffic accessing the Site (see Figure 5.5 (HDV Routing) in Volume 2 of the ES</td><td>The measures specified in 6.3.5.1 Environmental Statement - Volume 3 -Appendix 5.1: Outline Construction Traffic Management Plan and T2 of the Register of Environmental Actions and Commitments (REAC) should be included in the Construction Worker Travel Plan (CTWP) and rigorously implemented. The measures specified in T3 of the REAC</td><td>AMBER</td></tr></table></td><td>Emissions from construction traffic using the M62 over the Humber Estuary designated sites pose no credible air quality risk to those sites. The transport modelling predicts a peak construction year (2026) daily flow of construction traffic (as AADT) over this link of 161 AADT, made up of 63 light duty vehicles (LDV) and 99 heavy duty vehicles (HDV) (numbers rounded up). The Applicant acknowledges that if the Proposed Scheme and other plans and projects would increase long term AADT flows by more than 200 Heavy Duty Vehicles (HDV), this would trigger the screening criteria in NEA001 and require further investigation.

There are several factors relevant to the construction traffic route over the M62, which suggest there is no credible risk to the Humber Estuary designations from construction traffic emissions. These are as follows:

- Construction is a temporary activity, with a predicted duration of up to approximately six years. The above AADT construction traffic flow values were calculated based on the sum of the maximum daily flow in each month of the peak construction year (2026), multiplied by 25 working days and then divided by 365 to produce the AADT – hence are very conservative and will represent an overestimate of the actual AADT. The peak predicted daily construction flows, which fall below the NEA001 criterion, will rarely, if ever, be reached and there will indeed be days when no construction traffic uses the M62 construction traffic route at all (noting that the peak traffic flows will not last the full 6 years);
- Using the same conservative approach to calculating construction traffic flows for all other construction years, the AADT values continue to be screened well below the NEA001 criterion for HDVs on the same M62 link over the Humber Estuary (2025 = 76 HDVs; 2027 = 19 HDVs; 2028 = 2 HDVs; 2029 = 3 HDVs);
- The M62 bridge over the Humber Estuary is raised approximately 30 m above ground level. Pollutants emitted by vehicles using the M62 will therefore be</td></tr>
</table>

				(document reference 6.2.5.5)).” However, no assessment has been provided regarding this potential impact pathway. We therefore advise that the potential for likely significant effects from traffic emissions on the Humber Estuary designated sites, alone and in-combination, is considered in more detail in the HRA. Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001) (h[redacted]) may be relevant for informing the assessment. The document refers to guideline thresholds to check whether the predicted change is likely to be significant e.g. ≥1000 predicted average annual daily traffic flow	should be included in the Decommissioning traffic management plan. We are broadly satisfied that these measures are secured in the requirements of the DCO. Natural England advises that the requirement for mitigation measures will depend on the outcome of the assessment of the potential for likely significant effects from traffic emissions on the Humber Estuary designated sites in the HRA.		subject to considerable vertical and horizontal dispersion before reaching habitats within the Humber designations, relative to if habitats were situated at the same height as the road; - MAGIC priority habitat mapping and use of Google Streetview indicates that SAC habitats on the southern bank of the Ouse under and adjacent to the M62 are limited to intertidal mudflats and the tidal channel itself. Habitats on the northern bank also include mudflats, with (on a precautionary basis from imagery interpretation) Atlantic salt meadow habitat (grazing marsh) also present. The mudflats appear to be unvegetated and will be subject to regular tidal flushing; as such they are not considered sensitive to aerially deposited nitrogen, notwithstanding the negligible deposition that could occur as a result of construction traffic. Atlantic salt meadow habitats will be subject to occasional tidal flushing on higher tides, and have a relatively high critical load range of 20 – 30 kgN/ha/yr. Baseline nitrogen deposition data for the three 1km^2 grid squares where the M62 crosses the Humber Estuary (2018 – 2020 average) ranges between 19.7 kgN/ha/yr to 20.1 kgN/ha/yr, according to the Air Pollution Information System. The latest projections for the UK vehicle fleet are for a continuing decline in per-vehicle emissions of NO_x, as a consequence of the continued uptake of low, ultra-low, and zero-emission vehicles, which will in turn lead to reduced contributions to nitrogen deposition (National Atmospheric Emissions Inventory, 2019. Vehicle fleet composition projections). It is therefore reasonable to assume that the contribution of traffic using the M62 to NO_x levels, NH_3 levels, and nitrogen deposition to the Humber Estuary adjacent to the M62 crossing will continue to reduce over future years. Given the factors set out above, the Applicant considers there is no credible risk to the Humber Estuary SAC, SPA, Ramsar & SSSI associated with emissions from construction traffic using the M62 Ouse Bridge. The Applicant therefore considers there is no prospect of LSE to the European Site designations arising from this pathway.

				(AADT) for traffic numbers or heavy duty vehicle flows on motorways (HDV) change by 200 AADT or more, or 1% of critical load or level for emissions. The HRA 3.3.13 notes “a proportion of HDV traffic” will use the stretch of the M62 which passes within 200m of the Humber Estuary designated sites. Therefore, the predicted AADT movements for HDV traffic in this area should also be estimated to inform the assessment. If further assessment is required, ammonia sourced from traffic emissions should also be included in the HRA. For further information please see this report from Air Quality Consultants (AQC) that looks at ammonia emissions from roads for assessing impacts on nitrogen-sensitive habitats. The current CREAM model created by AQC used to assess ammonia emissions has been				

					recognised as a Best Available Tool, and is appropriate to be used where any caveats associated with this model are also considered within the assessment. Sufficient justification should be provided if this impact pathway is scoped out of further assessment.			
5.14	Table 1: Natural England's detailed advice							The Applicant notes NE's comments in relation to the off-site Habitat Provision Area. As stated in Table 3.3 of the HRA Report (APP-185) (emphasis added), *'The Off-site Habitat Provision Area includes approximately 2.72 ha of scrub and former arable farmland habitats that could potentially be of some limited value to wintering SPA bird species for foraging and roosting. The woodland in the north of the Off-site Habitat Creation Area does not provide suitable habitat for SPA bird species. The off-site Habitat Provision Area would not be subject to construction activities, rather the habitat present would be enhanced to deliver ecological mitigation and support the delivery of Biodiversity Net Gain (see the Outline Landscape and Biodiversity Strategy (document reference 6.6)) … Within the Off-site Habitat Provision Area, the former arable habitats and scrub would be managed to enhance the species-richness of areas of scrub and to provide species-rich grassland. These habitats are expected to provide comparable habitat for wintering SPA birds to the baseline situation. Regardless of the habitat present, the Off-site Habitat Provision Area is unlikely to be used regularly by SPA bird species presently or in the future. This is because the area is bisected by a public footpath, which anecdotal observations (evident flattening of vegetation observed during extended Phase 1 habitat survey) and analysis of the STRAVA heat map (Strava Heat Map, 2022) suggest is regularly used."* The Applicant would highlight that the information set out above highlights that the off-site Habitat Provision Area could be of limited value for birds that are part of qualifying interest populations for the Lower Derwent Valley SPA & Ramsar and the Humber Estuary SPA and Ramsar (and the underpinning SSSI designations). This assessment was completed on a precautionary basis, as the off-site Habitat Provision Area was included in the Proposed Scheme in spring 2022, at which point in time it was too late in the year to consider wintering bird surveys of this area. There is every possibility that the off-site Habitat Provision Area is of no/negligible importance for the relevant bird species.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk		
	2	International designated sites • Lower Derwent Valley SPA/Ramsar • Humber Estuary SPA/ Ramsar	Impacts from potential loss of functionally linked land associated with Lower Derwent Valley SPA/Ramsar and Humber EstuarySPA /Ramsar in the off-site habitat provision area (C)	The HRA Table 3.3 states that there are potential impacts on functionally linked land associated with Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar. The rationale includes "Habitat creation and management activities in the Habitat Provision Area (excluding the section to the north of the East Construction Laydown Area) and Off-site Habitat Provision Area could alter the suitability of those for SPA bird species." It is	Natural England advises that the requirement for mitigation measures will depend on the outcome of the assessment of the potential impacts on functionally linked land in the offsite habitat provision area.	AMBER		

				concluded in Table 3.7 that there is a potential likely significant effect from loss of functionally linked land for the above internationally designated sites. We note that an appropriate assessment has been provided for the relevant internationally designated sites in Section 4.2. However, the assessment focuses on the on-site Habitat Provision Area and does not refer to potential effects from construction and change in habitat provision in the off-site Habitat Provision Area. We therefore recommend that this is assessed in more detail in this section of the HRA. The information regarding recreational disturbance and provision of comparable habitat provided in Table 3.3 may be suitable to inform the assessment. In addition, we recommend a review of data centre records to determine whether significant numbers			The Applicant intends to update the HRA Report to fully address NE's comments. This update is likely to include and expand on the text that follows in the remainder of this row of this table. The off-site Habitat Provision Area currently comprises a mosaic of plantation woodland, poor semi-improved grassland, former arable farmland, and dense/continuous scrub. These habitats are mapped on sheet 7 of Figure 8.3 of the ES (APP-094). As shown on the Phase 1 habitat mapping, much of the off-site Habitat Provision Area is comprised of habitats (woodland and dense/continuous scrub) that are unlikely to be used by SPA/Ramsar bird species. This is borne out by the Supplementary Advice on Conservation Objectives (SACO), which for the majority of the SPA/Ramsar species highlight the importance of short sward and/or tussocky grassland, other short vegetation, along with in some instances areas of bare ground, for the relevant bird species (NE, 2019. Humber Estuary SPA; NE, 2014. European Site Conservation Objectives for Lower Derwent Valley SPA). The SACO also highlight that for many of the SPA/Ramsar bird species, it is important to maintain unobstructed sightlines within and around roosting and foraging areas. This allows detection of approaching predators. The existing woodland and dense scrub cover in the off-site Habitat Provision Area limits such unobstructed sightlines. There would be no increase in the extent of scrub or woodland cover under the proposals for the off-site Habitat Provision Area, with a minor reduction in the extent of dense scrub proposed. The existing semi-improved grassland and former arable habitats present would be enhanced to provide species-rich grassland, which would provide comparable habitat suitability for SPA/Ramsar bird species. Regardless of this, the off-site Habitat Provision Area is expected to continue to provide at most limited suitability for SPA/Ramsar bird species. This is due to the minimal change in woodland and scrub cover arising from the Proposed Scheme, being located more than 4.5 km from the Lower Derwent and Humber Estuary designations, and the fact that public access would remain unchanged as a result of the Proposed Scheme. In the absence of the proposals for the off-site Habitat Provision Area it is also likely that it's suitability for SPA/Ramsar bird species would decrease over time. This is because succession would be expected to continue, with an associated increase in the extent of scrub cover. The Applicant has analysed desk study records for relevant bird species, as requested by NE. Several species which are qualifying interests of one or more SPA/Ramsar/designation have been recorded within 1 km of the off-site Habitat Provision Area. A summary of these and an assessment of the likelihood that they would make use of the off-site Habitat Provision Area (in its current condition) is provided below. No other SPA/Ramsar species desk study records were present within 1 km of the off-site HPA, with no species that are qualifying interests of the

			of SPA/Ramsar birds are likely to use the site, in the absence of additional survey data. Further justification should also be provided regarding why the newly created habitats are "expected to provide comparable habitat for wintering SPA birds to the baseline situation", referring to the relevant SPA/Ramsar species.		

Lower Derwent Valley SPA/Ramsar recorded.

Species	Relevant Designated Sites	Off-site HPA suitability
Lapwing	Humber Estuary SPA, Humber Estuary Ramsar	Could feasibly use grassland habitats present, but limited suitability due to obstructed sightlines.
Mallard	Humber Estuary SPA	Unlikely to use habitats within off-site HPA due to lack of water bodies.
Oystercatcher	Humber Estuary SPA, Humber Estuary Ramsar	Very unlikely to use habitats within off-site HPA due to unsuitable habitat structure, lack of water bodies/exposed mud, and obstructed sightlines.

Given the factors set out above, the Applicant considers there is no credible risk of the proposed habitat enhancement measures for the offsite Habitat Provision Area leading to loss or deterioration of functionally-linked land that may be used by SPA/Ramsar qualifying interest bird species.

5.15

Table 1: Natural England's detailed advice

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
3	Internationally designated sites • Lower Derwent Valley SPA/ SAC/	Impacts from increased sediment load on functionally linked land associated with the Lower Derwent	No significant impacts from increased sediment load on functionally linked land are anticipated for the international designated sites listed.	The mitigation measures specified in WE8 of the Register of Environmental Actions and Commitments (REAC) must be included in the	GREEN

Requirement 14 requires that the measures in the REAC (AS-092) are included in a CEMP, which must then be complied with during the carrying out of the authorised development.

Requirement 18 details that the undertaker must submit to the relevant planning authority for its approval a decommissioning environmental management plan. Given that decommissioning of any part of the Proposed Scheme is not anticipated to take place for at least 25 years it was not considered appropriate to secure specific decommissioning environmental management measures. This is because it is anticipated that, during this time, there would be likely technological, legislative and good practice developments associated with environmental management of the decommissioning of the Proposed Scheme. The following text was however included at paragraph 1.1.6 of the REAC "Given that it is not currently possible to predict the activities that will be involved in the decommissioning of the Proposed Scheme, specific detail for the DEMP has not been included in this REAC. Those

		Ramsar • Humber Estuary SPA/Ramsar • River Derwent SAC	Valley SPA/SAC/Ramsar, Humber Estuary SPA/Ramsar and River Derwent SAC designated features (C).	The potential risks to functionally linked land for designated features of the international designated sites, i.e. otter (Lower Derwent Valley SAC and River Derwent SAC) and bird species (Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar) can be adequately mitigated through the measures specified in the Surface Water Management Plan, referenced in WE8 of the Register of Environmental Actions and Commitments (REAC) However, there is clearly a dependency that mitigation set out in the REAC will be included in the CEMP and DEMP, and that these will be rigorously implemented and maintained.	Construction Environmental Management Plan (CEMP) and Decommissioning Environmental Management Plan (DEMP) and rigorously implemented. We are broadly satisfied that these mitigation measures are secured in the requirements of the DCO. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the REAC.		measures that are detailed below that apply to pre-construction and construction stages of the Proposed Scheme will however be considered in the production of the DEMP and the DEMP will be approved by the LPA prior to commencing decommissioning." Given that the relevant planning authority would approve the plan, this would ensure that the measures included within it are acceptable at that point in time. No decommissioning works could take place until the Decommissioning Environmental Management Plan (DEMP) was in place. However, the Applicant recognises that whilst the specific of the measures in the REAC (AS-092) may change over time, the principles behind them are likely to remain relevant. As such, the Applicant proposes to amend DCO Requirement 18 to provide that the DEMP be substantially in accordance with the principles set out in the REAC.
	4	Internationally designated sites • Lower Derwent Valley SPA/ SAC/ Ramsar • Humber Estuary	Impacts from accidental releases of water-borne pollutants (Construction and operation phase) on Lower Derwent Valley SAC, River Derwent SAC and	No significant impacts from accidental releases of water-borne pollutants are anticipated for the international designated sites listed. The potential risks for designated	The mitigation measures specified in WE8 of the Register of Environmental Actions and Commitments (REAC) must be included in the Construction Environmental Management	GREEN		

		SPA/Ramsar • River Derwent SAC	Humber Estuary SAC designated features (C) and (O)	features of the international designated sites, i.e. otter (Lower Derwent Valley SAC and River Derwent SAC), river lamprey and sea lamprey (Humber Estuary SAC) can be adequately mitigated through the measures specified in the Surface Water Management Plan, referenced in WE8 of the Register of Environmental Actions and Commitments (REAC). However, there is clearly a dependency that mitigation set out in the REAC will be included in the CEMP and DEMP, and that these will be rigorously implemented and maintained.	Plan (CEMP) and Decommissioning Environmental Management Plan (DEMP) and rigorously implemented. We are broadly satisfied that these mitigation measures are secured in the requirements of the DCO. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the REAC.		
	5	Internationally designated sites • Lower Derwent Valley SPA/ SAC/ Ramsar • Humber Estuary SPA/ Ramsar • River Derwent SAC	Impacts from dust on functionally linked land associated with the Lower Derwent Valley SPA/SAC/Ramsar, Humber Estuary SPA/Ramsar and River Derwent SAC designated features (C).	No significant impacts from dust on functionally linked land are anticipated for the international designated sites listed. The potential risks from dust to functionally linked land for designated features of the international designated sites, i.e. otter	The mitigation measures specified in AQ1 of the Register of Environmental Actions and Commitments (REAC) must be included in the Construction Environmental Management Plan (CEMP) and Decommissioning Environmental Management Plan (DEMP)	GREEN		

				(Lower Derwent Valley SAC and River Derwent SAC) and bird species (Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar) can be adequately mitigated through the measures specified in Section 1.3 of Appendix 6.2 (Construction Dust Assessment) of Chapter 6 (Air Quality) in Volume 3 of the ES and AQ1 in the Register of Environmental Actions and Commitments (REAC). However, there is clearly a dependency that mitigation set out in the REAC will be included in the CEMP and DEMP, and that these will be rigorously implemented and maintained.	and rigorously implemented. We are broadly satisfied that these mitigation measures are secured in the requirements of the DCO. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the REAC.		
	6	International designated sites • Lower Derwent Valley SPA/ SAC/ Ramsar • Humber Estuary SPA/ Ramsar	Impacts from visual disturbance on functionally linked land associated with Lower Derwent Valley SPA/SAC/Ramsar, Humber Estuary SPA/Ramsar and River Derwent SAC (C).	No significant impacts from visual disturbance impacts on functionally linked land are anticipated for the international designated sites listed. The potential risks from visual disturbance to functionally linked land for designated	The mitigation measures specified in G5, D4 and E4 of the Register of Environmental Actions and Commitments (REAC) must be included in the Construction Environmental Management Plan (CEMP) and Decommissioning Environmental	GREEN		

		• River Derwent SAC		features of the international designated sites, i.e. otter (Lower Derwent Valley SAC and River Derwent SAC) and bird species (Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar) can be adequately mitigated through the general measures specified in G5 of the REAC, lighting measures in D4 of the REAC (in accordance with the Draft Lighting Strategy), and additional mitigation measures for otter specified in E4 of the REAC. However, there is clearly a dependency that mitigation set out in the REAC will be included in the CEMP and DEMP, and that these will be rigorously implemented and maintained.	Management Plan (DEMP) and rigorously implemented. We are broadly satisfied that these mitigation measures are secured in the requirements of the DCO. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the REAC.		
5.17	Table 1: Natural England's detailed advice						Please see our response in Row 5.13. In light of this response, no further mitigation measures are considered necessary.

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
7	Nationally designated sites (biodiversity &	Impacts from traffic emissions to air on	Our advice regarding the potential impacts from traffic emissions to air on Humber Estuary	Natural England's advice regarding mitigation measures coincides with our advice regarding the Humber Estuary	AMBER

<table>
<tr><td></td><td></td><td>geodiversity)
• Humber Estuary SSSI</td><td>Humber Estuary SSSI (C)</td><td>SSSI coincide with our advice regarding the potential impacts upon the Humber Estuary SAC/SPA/Ramsar, as detailed above (Natural England key issue reference 1).</td><td>SAC/SPA/Ramsar, as detailed above (Natural England key issue reference 1).</td><td></td><td></td></tr>
<tr><td>5.18</td><td colspan="6">Table 1: Natural England’s detailed advice<table><tr><th>Natural England key issue reference</th><th>Topic</th><th>Issue Summary (C) Construction phase (O) Operational phase</th><th>Natural England commentary and advice on the further information required to enable assessment</th><th>Natural England commentary and advice on the further information required to enable assessment</th><th>Risk</th></tr><tr><td>8</td><td>Nationally designated sites (biodiversity & geodiversity)
• Breighton Meadows SSSI
• Derwent Ings SSSI
• Melbourne and Thornton Ings SSSI
• Humber Estuary SSSI</td><td>Impacts from potential loss of functionally linked land associated with Breighton Meadows SSSI, Derwent Ings SSSI, Melbourne and Thornton Ings SSSI and Humber Estuary SSSI in the off-site habitat provision area (C).</td><td>Our advice regarding the potential impacts from loss of functionally linked land associated with Breighton Meadows SSSI, Derwent Ings SSSI, Melbourne and Thornton Ings SSSI and Humber Estuary SSSI in the off-site habitat provision area coincide with our advice regarding the potential impacts upon the Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/ Ramsar (Natural England key issue reference 2).</td><td>Natural England’s advice regarding mitigation measures coincides with our advice regarding the Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar, as detailed above (Natural England key issue reference 2).</td><td>AMBER</td></tr></table></td><td>Please see our response in Row 5.14. In light of this response, no further mitigation measures are considered necessary.</td></tr>
<tr><td>5.19</td><td>Table 1: Natural England’s detailed advice</td><td>The Applicant notes NE’s comments. The Applicant proposes to alter the proposals for pre-construction badger surveys to be as follows (text modified from paragraphs</td></tr>
</table>

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
9	Protected Species	Badger (C)	Natural England is satisfied in principle with the content of the Environmental Statement – Volume 1 – Chapter 8 Ecology document and the associated appendices detailing protected species' surveys. However, Paragraph 8.10.23 of the Environmental Statement - Volume 1 – Chapter 8 Ecology document states that two pre-construction badger surveys will be undertaken at least three months prior and one week prior to site clearance. It should be noted that a licence to exclude badgers and the destructions of setts is unlikely to be granted between the months of December to June. Careful consideration should be given to the timing of works to prevent delays should badgers be discovered prior to site clearance activities.	Natural England advises that the requirement for a licence will depend on the outcome of the pre-construction badger surveys. The surveys specified in E3 of the Register of Environmental Actions and Commitments (REAC) must be included in the Construction Environmental Management Plan (CEMP) and Decommissioning Environmental Management Plan (DEMP) and rigorously implemented. We are broadly satisfied that these measures are secured in the requirements of the DCO. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the REAC.	AMBER

8.10.23 of Chapter 8 (Ecology) of the Environmental Statement (APP-044)), with changes underlined:

The following generic measures are to be implemented for badger:

a. A pre-construction badger survey would be carried out at least seven months in advance of site clearance in areas of potential badger habitat commencing, to ensure any new information is obtained.

b. A further survey would be completed within one month prior to site clearance commencing. These surveys would reconfirm levels of badger activity immediately in advance of site clearance commencing. This would allow identification of any additional mitigation required, in the unlikely event levels of activity had increased or locations had changed in the three months prior to site work commencing.

These modified timings provide the opportunity to identify any changes in badger activity, particularly new sett construction, with sufficient lead-in time to obtain a licence to derogate the requirements of the Protection of Badgers Act (1992) with minimal risk of wider project delays due to the badger closed season. The Applicant trusts that these revised pre-construction survey timings satisfy Natural England's concerns.

This change is reflected within Ref ID E3 in the updated REAC (AS-092) submitted alongside this response the mitigation within which will be secured by requirements in the DCO including the requirement to produce a CEMP).

5.20	Table 1: Natural England's detailed advice **Natural England key issue reference:** 10 **Topic:** Protected species **Issue Summary (C) Construction phase (O) Operational phase:** Bat species (C) **Natural England commentary and advice on the further information required to enable assessment:** It is stated in paragraph 2.1.3 of Volume 3 – Appendix 8.7 Bat Building Emergence Survey Report that internal inspections were to be undertaken on the buildings and the report updated. It is not clear if these have taken place and the report has not been updated. Internal inspections of the buildings to be demolished/ impacted could provide new categorisations and subsequently require additional survey and subsequent mitigation/compensation should evidence of bats be discovered. It is noted in paragraph 4.1.2 of Volume 3 – Appendix 8.8 Bat Tree Roost Assessment Survey Report that ten trees classified as having moderate or high potential should be subject to further survey. It is not clear if this has been undertaken. **Natural England commentary and advice on the further information required to enable assessment:** Natural England advises that the results of the further surveys are required to determine whether a protected species licence is likely to be required. The measures specified in E2 of the Register of Environmental Actions and Commitments (REAC) must be included in the Construction Environmental Management Plan (CEMP) and Decommissioning Environmental Management Plan (DEMP) and rigorously implemented. We are broadly satisfied that these measures are secured in the requirements of the DCO. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the REAC. **Risk:** AMBER	The Applicant notes NE's advice relating to roosting bats. The Applicant wishes to clarify that the buildings and trees identified as having potential for roosting bats are not located in areas that would be subject to vegetation or building removal or significant disturbance as a result of the Proposed Scheme (see Figure 2 in ES Appendix 8.7 (Bat Building Emergence Survey Report – Repower) (APP-142) and Figures 1 and 2 in ES Appendix 8.8 (Bat Tree Roost Assessment Survey Report – Repower) (APP-143)). The survey reports referred to by NE relate to the previously consented Drax Repower Scheme, and as such the referenced appendices are not directly relevant to the Proposed Scheme and no requirement for survey is triggered.

				The results of the internal inspections should be provided to ensure the surveys undertaken have been appropriate for the building potential.			

5.21

Table 1: Natural England's detailed advice

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
11	Biodiversity net gain	Additional information required in order to demonstrate that a 10% biodiversity net gain is achievable (C)	Natural England welcomes the stated commitment within the Environmental Statement (6.1.8 Environmental Statement – Volume 1 – Chapter 8: Ecology) to provide a 10% biodiversity net gain (BNG) from the project and the use of Defra Biodiversity Metric 3.0 to assess the pre and post-development value of the land. However, Natural England note that although a commitment to a 10% biodiversity net gain has been stated within the Environmental Statement Environmental Statement – Volume 1 – Chapter 8: Ecology) and supporting documents (6.10 Biodiversity Net	Natural England advise that to address this concern, further assessment and a strategy to demonstrate a 10% biodiversity net gain should be provided or form part of draft DCO Requirement 7 to ensure the required measures are able to be incorporated into the project. The strategy should outline the opportunities to increase biodiversity and achieve a target of 10% net gain for all habitat types identified across the DCO limits. This strategy should contain details on the future management, monitoring and remedial measures required to achieve the stated objectives, habitat	AMBER

The Applicant submitted a BNG Report with the DCO Application (APP-196). This set out the anticipated BNG that would be achieved by the Proposed Scheme, on the basis of the loss and disturbance of habitat and the proposals for habitat creation, restoration and enhancement as submitted in the Outline Landscape and Biodiversity Strategy (OLBS) (AS-094).

The Applicant has been working to refine requirements for landtake during construction and operation of the Proposed Scheme since submission. This has enabled an improvement in the BNG outturn for the Proposed Scheme.

Following the same methodological approach taken for the submission version of the BNG Report (off-site Habitat Provision Area included in off-site part of Defra Metric), the Proposed Scheme can now achieve 10% net gain for Habitat units and hedgerow units. The Applicant is also in discussions with the Calder and Colne Rivers Trust, to secure off-site river and stream habitat enhancements. Subject to these being secured, the Applicant also expects to achieve 10% BNG for River and Stream habitats.

The Applicant intends to submit an updated BNG Report into the Examination to confirm the latest position on BNG. This will reflect the above matters, the use of metric 3.1, and to account for the Proposed Changes to the Application should they be accepted into Examination. As such the updated BNG Report is not submitted alongside this response.

As requested by NE, a copy of the full calculations as contained in the latest Defra Biodiversity Metric completed by the Applicant, will be included with the updated BNG Report. The Applicant also intends to produce an updated Outline Landscape and Biodiversity Strategy which will capture the revised habitat losses and gains for the Proposed Scheme. The Applicant anticipates that these will satisfy NE's request for 'further assessment of BNG and provision of a strategy should be provided to outline the opportunities to increase biodiversity and achieve a target of 10% net gain for all habitat types identified across the DCO limits.'

Please also see our response at Row 5.39, which identifies how the Applicant intends to secure delivery of 10% BNG. This includes development of the S106 legal agreement to cover BNG, given that a proportion of the BNG will be delivered outside the DCO Order Limits, including by third parties on land over which the Applicant has no land interest.

				Gain Assessment), this has not yet been demonstrated as achievable by the proposed scheme. If the plans cited within the "'future scenario' sensitivity test" in paragraph 3.1.8 of the Biodiversity Net Gain Assessment do not come to fruition, there will be no predicted change in river units and a 3.66% net gain in habitat units, according to the presented "worst-case scenario". The BNG Assessment recommends that "the assessment be revisited prior and during Examination of the DCO" in order to ascertain whether a 10% net gain can be achieved once landscape plans are finalised. Further assessment of BNG and provision of a strategy should be provided to outline the opportunities to increase biodiversity and achieve a target of 10% net gain for all habitat types identified across the DCO limits.	condition assessments and any legal agreements in place to secure these for a minimum of 30 years (Natural England notes and concurs with the recommendation to secure the Off-site Habitat Provision Area via a Section 106 agreement). This is to ensure the plans are in accordance with NPPF 180 (d) to "secure measurable net gains" and Biodiversity Net Gain Good Practice Principle 5: Make a measurable Net Gain contribution. In order to ensure the plans are in accordance with NPPF 180 (d) to "secure measurable net gains", Natural England advises that further information regarding the feasibility of achieving and securing a 10% net gain in all identified habitat types (hedgerow, habitat and river) should be provided or commitments reflected in Draft DCO Schedule 2 Requirement 7. Requirement 7 currently does not make reference to		

					commitments to secure a 10% biodiversity net gain, update net gain calculations utilising the Defra Biodiversity metric based on final plans or the 30-year management and monitoring period.		
5.22	Table 1: Natural England's detailed advice						The Applicant is currently in discussions with the Calder and Colne Rivers Trust, to secure off-site river and stream habitat enhancements. Subject to these being secured, the Applicant expects to achieve 10% BNG for River and Stream habitats. Please also see our response at Row 5.39, which identifies how the Applicant intends to secure delivery of 10% BNG. This includes development of the S106 legal agreement to cover BNG, given that delivery of Rivers and Streams BNG is expected to be delivered by the Calder and Colne Rivers Trust, on land over which the Applicant has no land interest.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk	
	12	Biodiversity net gain	River BNG units achieve no get gain in either of the scenarios currently presented	Natural England notes that river BNG units do not achieve net gain in either of thescenarios currently presented. As stated above (Natural England key issue reference14), the BNG strategy should achieve a target of 10% net gain for all habitat types identified across the DCO limits. We note that it is stated that "Consultation with the Environment Agency is to be undertaken with regards to meeting a 10% net gain in river units. The Applicant is also exploring additional opportunities within	Natural England's advice regarding the mechanism for securing relevant BNG measures in the DCO coincides with the above advice (Natural England key issue reference 11).	AMBER	

					the Order Limits to deliver BNG in relation to rivers." Natural England welcomes the applicant's proposed consultation with the Environment Agency regarding opportunity to achieve the 10% net gain in river units and recommend that this is considered when finalising the BNG assessments.			
5.23	Table 1: Natural England's detailed advice							The Applicant notes NE's comment regarding the presence of reedbed habitats as referenced in the BNG report (APP-196). The Applicant wishes to clarify that there are no habitats recorded within the Order Limits that meet the JNCC description for the Habitat of Principal Importance (HPI) 'reedbed' (JNCC, 2016. UK Biodiversity Action Plan Priority Habitat Descriptions). 'Reedbed' habitats were recorded within the Order Limits at the northern extent of the existing Power Station Site, as shown on Sheet 2 of 7 of Figure 8.3 (Phase 1 Habitats) of the ES (APP-094). These are mapped as the phase 1 habitat type 'swamp', with the following description in the Preliminary Ecological Appraisal (Appendix 8.1) (APP-136): 'Bulrush dominated this area of standing water, with occasional common centaury *Centaurium erythraea*, frequent figwort, Yorkshire fog, alder, marsh thistle *Cirsium palustre*, ragwort and Himalayan balsam.' This habitat covered an area of approximately 0.1 hectares. The Biodiversity Metric (Biodiversity Metric 3.1) used for calculating BNG does not use exactly the same habitat classifications as the Phase 1 habitat mapping system – it is instead based around the UKHAB habitat classification system. There is no 'swamp' habitat category available in the Biodiversity Metric, and 'reedbed' habitat was therefore selected as the closest fitting habitat type available in the Biodiversity Metric for this area. This will be reflected in the next iteration of the BNG Report The Applicant is in the course of seeking to agree this with NE via the SoCG process.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk		
	13	Biodiversity net gain	Clarity should be provided regarding impacts to habitats identified as habitats of principal importance (HPI) and proposed mitigation. (C)	The Environmental Statement (6.1.8 Environmental Statement – Volume 1 – Chapter 8: Ecology) states that there are no Habitats of Principal Importance (HPI) within the order limits other than hedgerows which have been considered in the scheme. However, it is noted from the Biodiversity Net Gain Report that reedbed habitats (a HPI), are present	Further clarity regarding the loss of a habitat of principal importance (reedbed) from within the order limits should be provided within the Environmental Statement. Natural England advises that adequate mitigation and net gain for HPI be demonstrated and secured, on-site in the first instance or off-site where justified. Natural	AMBER		

				and to be lost within the order limits, with no adequate mitigation or net gain achieved under a worst-case scenario basis. Further clarity regarding the impacts, mitigation and enhancement proposed are required in order to ensure the mitigation hierarchy has been sufficiently applied. If a loss of this habitat is anticipated this should be mitigated for in line with the Policy SP18 Protecting and Enhancing the Environment of the Selby District Core Strategy Local Plan. Natural England advises that habitats identified as local priorities such as HPIs should form the basis for achieving a biodiversity net gain and opportunity to enhance these where feasible is encouraged.	England's advice regarding the mechanism for securing relevant BNG measures in the DCO coincides with the above advice (Natural England key issue reference 11).		
5.24	Table 1: Natural England's detailed advice Natural England key issue reference / Topic / Issue Summary (C) Construction phase (O) Operational phase / Natural England commentary and advice on the further information / Natural England commentary and advice on the further information / Risk							The Applicant wishes to clarify that the Habitat Provision Area within the Order Limits has not been included in the 'Site Habitat Baseline' part of the Biodiversity Metric. Both the on-site and the off-site Habitat Provision Area were included in the 'Off Site Habitat Baseline' part of the Biodiversity Metric, for the submission BNG Report (APP-196). The Applicant remains of a view that this is the appropriate methodological approach.

				required to enable assessment	required to enable assessment		
	14	Biodiversity net gain	The Habitat Provision Area within the order limits has been included as on-site in the Biodiversity Net Gain Assessment, and is therefore subject to 10% net gain (C).	Natural England provided discretionary advice to WSP (on behalf of Drax Power Limited) on 5 May 2022 regarding the project level approach to Biodiversity Net Gain (DAS/A004280, dated 5th May 2022) in which concerns were raised regarding the method by which on and off-site habitat enhancement had been calculated. As per Natural England's formal response to the Consultation on Biodiversity Net Gain Regulations and Implementation document issued by the Department for Environment, Food and Rural Affairs (DEFRA), an approach of considering any mitigation lands within the development boundary (or order limits) as "off-site" would not be supported. Two "habitat provision areas" are included, which are cited to deliver	Natural England's advice regarding the mechanism for securing relevant BNG measures in the DCO coincides with the above advice (Natural England key issue reference 11).	GREEN	As described in our response in Row 5.23, the Applicant is in the course of updating the BNG Report for the Proposed Scheme, to reflect refinements in site clearance requirements. The Applicant has completed an update to the BNG calculations that were submitted with the DCO application for the Proposed Scheme, which demonstrate that 10% BNG can be achieved for area-based and linear (hedgerow) habitats, regardless of whether the Habitat Provision Areas are placed in the 'Site Habitat Baseline' or 'Off Site Habitat Baseline'. The Applicant will update the BNG Report to reflect this, and intends to submit this updated report into the Examination in due course (pending acceptance of the Proposed Change to the Application by PINS).

					a biodiversity net gain for the scheme, one inside the order limits (the "Habitat Provision Area") and one outside (the "off-site Habitat Provision Area"). As the Biodiversity Net Gain Assessment states that the habitat provision area within the order limits has been included as on-site (and is therefore subject to 10% net gain), Natural England are satisfied that this approach aligns with the advice provided.			
5.25	Table 1: Natural England's detailed advice							Noted. See response provided in 5.6.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk		
	15	Soils and Best and Most Versatile Agricultural Land	The ALC Grade should be calculated for all agricultural (or land which was last used for agricultural use) land subject to proposed development or disturbance (C)	As stated in Chapter 2 Site and Project Description (May 2022), the application site is approximately 125 hectares (ha) plus an additional 12.3 ha Off-site Habitat Provision Area. Based on the Soil Resource and Agricultural Land Classification Survey (Appendix 11.2)) provided, an ALC survey has been undertaken on	Natural England advises that the ALC Grades should inform any requirements of the DCO. Natural England's advice regarding the mechanism for securing relevant soil handling measures in the DCO is detailed below (Natural England key issue reference 17)	AMBER		

				10.2 ha of targeted land within the Project boundary, including 4.9 ha classified as Best and Most Versatile (BMV) (Grades 1, 2 and 3a land in the ALC system). The ALC survey methodology presented in the Soil Resource and Agricultural Land Classification Survey (Environmental Statement 11.2) is robust, however, coupled with the available Post-1988 ALC survey data, does not provide complete coverage of the agricultural land subject to disturbance from the proposed development within the project boundary (Figure 11.2). The ALC Grade should be calculated for all agricultural land (or land which was last used for agricultural use) subject to proposed development or disturbance to inform soil management and sustainable reuse. A detailed ALC field survey should be undertaken on the southern tip of the			

				On-Site Habitat Provision Area to inform soil management and sustainable re-use, as at present it remains un-surveyed. Two areas of land subject to the ALC survey (eastern parcel and central parcel) have not been assigned an ALC Grade based on their current non-agricultural land use. The ALC Grade is not based on the current land use or cropping of the land, but the inherent capability of the land. The ALC Grade should also be calculated for the western parcel with the data presented in Appendix 11.2. Further detail can be found in the Guide to assessing development proposals on agricultural land - GOV.UK (www.gov.uk).			
5.26	Table 1: Natural England's detailed advice						See response provided in 5.7.

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
16	Soils and Best and	Additional information	The Environmental Statement Chapter	The EIA should be in line with the	AMBER

		Most Versatile Agricultural Land	should be provided in the Environmental Statement Chapter 11 Ground Conditions – EIA Methodology (C)	11 Ground Conditions – EIA Methodology (6.1.11) should include a detailed breakdown of the land take into permanent and temporary losses for the different types of land use within the proposed development, broken down by ALC by area (ha) and percentage. The EIA should acknowledge the potential impact to the agricultural land beyond the East Construction Laydown Area. The Environmental Statement Chapter 11 Ground Conditions – EIA Methodology (6.1.11) criteria presents a modified EIA methodology derived in part from the LA104 and LA109 DMRB methodology. The DMRB methodology applies to the assessment of road developments, and is therefore not the most appropriate criteria to utilise in this instance. Natural England advises that the EIA should be in line with the methodology presented in the ICE	methodology presented in the ICE (2019) EIA handbook. Consideration of the development impacts on the soil resource and soil function should also be considered (IEMA guidelines (2022)). The Environmental Statement should include a detailed breakdown of the land take into permanent and temporary losses for the different types of land use within the proposed development, broken down by ALC by area (ha) and percentage. Natural England advises that the outcomes of this assessment should inform any requirements of the DCO. Natural England's advice regarding the mechanism for securing relevant soil handling measures in the DCO is detailed below (Natural England key issue reference 17).			

				(2019) EIA handbook.				
5.27	Table 1: Natural England's detailed advice							The requirement to produce a Soil Management Handling Plan has been included in the REAC at Ref ID GC2. The mitigation within the REAC will be secured by requirements in the DCO including the requirement for a Soil Management Handling Plan to be produced as part of the CEMP for the Proposed Scheme. Ref ID GC2 within the REAC has been updated in response to comments received from Natural England in their relevant representation and an updated version of the REAC (AS-092) has been resubmitted alongside this Relevant Representation response.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk		
	17	Soils and Best and Most Versatile Agricultural Land	Additional information should be provided regarding sustainable soil management in the Soil Handling Management Plan. Inappropriate soil handling is currently proposed for the Habitat Provision Area. (C)	Additional information regarding sustainable soil management should be included in the Soil Handling Management Plan (SHMP) as part of the CEMP (A Register of Environmental Actions and Commitments (REAC; document 6.5). In order to both retain the long term potential of this land and to safeguard allsoil resources as part of the overall sustainability of the whole development, it is important that the soil is able to retain as many of its many important functions and services (ecosystem services) as possible. Sustainable soil management should aim to minimise risks to the ecosystem services which soils provide, through appropriate site	Natural England advises that additional information regarding sustainable soil management should be included in the Soil Handling Management Plan (SHMP) as part of the CEMP. We recommend that these measures are secured in the requirements of the DCO. Appropriate measures in the SHMP may include: • Site specific soil management considerations informed from the detailed ALC survey (Appendix 11.2) and available Post-1988 ALC survey information. • The SHMP should demonstrate the sustainable, beneficial soil re-use of potential surplus soil resources.	AMBER		

				design / masterplan / Green Infrastructure etc. Inappropriate soil handling is currently proposed for the Habitat Provision Area to the north of the East Construction Laydown Area and the Off-Site Habitat Provision Area (Outline Landscape and Biodiversity Strategy). The Outline Landscape and Biodiversity Strategy (6.6.1) currently suggests topsoil stripping for the habitat provision areas. Paragraphs 3.3.16 and 3.3.34 state that to prepare the Habitat Provision Area to the north of the East Construction Laydown Area and the Off-Site Habitat Provision Area, the topsoil will either be removed or topsoil inversion will be undertaken. This would be disturbance or potential soil loss which is not currently considered in the EIA (Chapter 11). Topsoil stripping will result in a surplus of the finite soil resource.	• Plans of the detailed ALC grades should inform restoration and allow confirmation that the current baseline across the Site has been restored. • Reference should be made to the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. • The SHMP should include the type and volume of each soil type to be stripped and stockpiled; the nutrient status of the anticipated surplus soil units to inform the potential suitability for biodiversity enhancement; and where required, the location of soil storage and restoration, derived from the ALC survey. • For areas of temporary development, the ALC grade determined from the soil survey should be used to inform the restoration criteria, with temporarily disturbed BMV land returned to the same quality as far as practicable to			

				Natural England advises that the habitat creation and seed mixes are tailored to the soil resource present on site, using data presented in Appendix 11.2, avoiding the need for soil stripping or inversion.	minimise potential loss. • The methods by which the applicant intends to restore affected areas to agricultural use after works including excavations and restoration has finished. • An aftercare programme which would enable a satisfactory standard of agricultural after-use to be reached, with regards to cultivating, reseeding, draining or irrigating, applying fertiliser, or cutting and grazing the site. Natural England would advise that commitments are made by the applicant to safeguard soil resources, including the provision of an appropriately experienced soil specialist to advise on and supervise soil handling, including identifying when soils are dry enough to be handled. All soil should be sustainably reused on site, either for reuse during operation or			

						following decommissioning for restoration purposes. No soil should be disposed of. Soil inversion can damage the soil functioning and soil health and should be avoided. Defra has published a Construction Code of Practice for the Sustainable Use of Soils on Construction Sites which may be helpful when setting conditions.		
5.28	Table 1: Natural England's detailed advice						A detailed response explaining the modelled scenarios included in the air quality assessment (as per Chapter 6 of the Environmental Statement) is attached to this document as Appendix B: 'Modelling Scenarios'. The realistic worst-case scenario covers a situation where there are either two or four units running i.e. the CCS units run for the entire year (two units running), whilst the non-CCS units run for 4000 hrs of the year, during which time the CCS units are also running (four units running). The justification for why the full load operations (sensitivity test) results in lower impacts is that the mid-merit scenario accounts for both changes to exhaust gases and emissions as a result of CCS AND the potential increase in electricity generation with the installation of CCS resulting from operation of the UK's capacity market. The full load operation impacts account only for the changes in exhaust gases and emissions profile. The mid-merit scenario with the simultaneous operation of either two CCS units or two CCS units plus two non-CCS units maximises the impact of the Proposed Scheme. Should the operating hours of the two non-CCS units be amended to allow their operation consecutively rather than in parallel, this would lessen the impacts resulting from the change in exhaust emissions and plume characteristics over the year and ultimately lead to an impact sitting between the 'realistic worst-case' and the 'full-load' operations. Please refer to Appendix B which contains further information on the modelling scenarios.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk		
	18	Internationally designated sites • Humber Estuary SPA and SAC • Lower Derwent Valley SAC, SPA and Ramsar • Thorne Moor SAC • River Derwent SAC	Clarification on scenarios used to assess the impacts from aerial emissions on Humber Estuary SPA/SAC; Lower Derwent Valley SAC/ SPA/Ramsar; Thorne Moor SAC; River Derwent SAC and Skipwith Common SAC designated features. (O)	We note the assessment used a "realistic worst case" scenario to assess the project. However, it should be clarified whether this scenario involves only two units being operational at any one time (scenario i) or ii)) or if both will operate simultaneously. If it is the second option, it should also be clarified why the "non-CCS" units will be operating at half the hours of the CCS units.	Natural England notes that the DCO does not currently secure the mitigation measures proposed to reduce air quality impacts. The mitigation measures and a detailed monitoring plan should be secured within the DCO requirements. Natural England advises that the requirement for additional mitigation measures will depend on the outcome of the assessment (key	AMBER		

		•Skipwith Common SAC		It should also be clarified whether there would be a situation where 3 or 4 of the units could be run, either with or without CCS. In addition, justification should be provided on why the full load operation (sensitivity test) resulted in lower impacts on protected sites, even when the total process impacts increase	reference 19-22 below).		
5.29	Table 1: Natural England's detailed advice						The Applicant notes Natural England's comments and is continuing to engage further with NE to understand in detail the additional information they consider could usefully be gathered in relation to site characteristics. In relation to trends in acid deposition, the Applicant would highlight that there have been significant reductions in the contribution of SO_2 to acidification across the UK since the 1970s, driven in particular by improvements in (and requirements for) abatement technology and the phasing out of coal as a combustion source. Of particular relevance to the Proposed Scheme, annual SO_2 emissions from Drax Power Station have fallen substantially over recent years, in line with increasingly stringent Environmental Permit requirements. There has been a reduction in emissions from approximately 35 kilotonnes in 2012 compared to approximately 5 kilotonnes in 2020 per gram emitted, SO_2 has approximately 16 times the acidifying potential of NO_x (Drax, 2021. ESG Data Supplement). Reductions in SO_2 emissions therefore lead to a proportionately greater reduction in acidification potential relative to NO_x.
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk	
	19	Internationally designated sites • Lower Derwent Valley SAC • Lower Derwent Valley Ramsar	Impacts of acid deposition from aerial emissions on Lower Derwent Valley SAC/Ramsar designated features (alone and incombination) (O).	Section 4.2.176 of the HRA states that the exceedance of the 1% screening criterion for acid deposition occurs 'only' over the Breighton Meadows SSSI component of the SAC, which supports approximately 18% of the Lower Derwent Valley SAC lowland hay meadow habitat. The HRA identifies that the site is currently in favourable condition despite having high background levels of	Natural England notes that the DCO does not currently secure the mitigation measures proposed to reduce air quality impacts. The mitigation measures and a detailed monitoring plan should be secured within the DCO requirements. Natural England advises that the requirement for additional mitigation measures will depend on the	AMBER	

				acid deposition. However, Natural England notes that SSSI assessment methodology does not explicitly account for air quality impacts or pressures. Recent case law (Dutch Nitrogen ruling) makes it clear that small contributions should not be disregarded entirely. Where a site exceeds the environmental benchmarks, potential additional damaging effects will need careful justification. We advise that further assessment should be provided to determine whether the additional contribution is likely to undermine the conservation objectives of the site. Examples of such evidence may include the sensitivity of the species present in this case; any trends in acid deposition in the area, and the characteristics and specific environmental conditions at the site concerned. Further information on suitable sources of evidence can be found in Natural England's guidance	outcome of the assessment.			

				document NEA001. If adverse effect cannot be ruled out, then further mitigation may be required.			

5.30

Table 1: Natural England's detailed advice

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
20	Internationally designated sites • Thorne Moor SAC • River Derwent SAC	Impacts of nitrogen deposition from aerial emissions on Thorne Moor SAC (in-combination) and River Derwent SAC designated features (alone and incombination) (O)	<u>Thorne Moor SAC</u> Section 4.3.40 of the HRA identifies that there will be an in-combination process contribution of up to 1.7% of the critical load. We note that Natural England guidance document NECR210 (Caporn, 2017) has been used to state that effects of additional nitrogen where background deposition rates are already high are much reduced relative to where background deposition rates are low, and the conclusion is that the small additional input would not be sufficient to reduce the species richness. Although a useful piece of evidence among others, the "loss of one species" calculation in NECR210 does not	Natural England notes that the DCO does not currently secure the mitigation measures proposed to reduce air quality impacts. The mitigation measures and a detailed monitoring plan should be secured within the DCO requirements. Natural England advises that the requirement for additional mitigation measures will depend on the outcome of the assessment.	AMBER

The Applicant notes Natural England's comments and is continuing to engage further with NE to understand in detail the additional information they consider could usefully be gathered in relation to site characteristics.

<u>Thorne Moor SAC</u>

As set out in the HRA Report paragraphs 4.3.40 to 4.3.42 (APP-185), the Applicant has provided the following assessment in relation to in-combination nitrogen deposition on Thorne Moor SAC:

There would be a cumulative impact of up to 1.7% of critical load for nitrogen deposition, with the Proposed Scheme contributing up to 0.4%. The cumulative impact on nitrogen therefore exceeds 1% of critical load.

To support the assessment of the implications of this deposition, published research into the effects of nitrogen deposition on bog habitats was reviewed (CAPORN, 2017). This included a review of existing scientific knowledge covering several studies. This study suggests that the effects of additional nitrogen where background deposition rates are already high are much reduced relative to where background deposition rates are low. This is because nitrogen is already in excess, with the plants present having limited capacity to respond. In this study, with background deposition rates of 20 kg N/ha/yr (comparable to estimated baseline deposition rates at Thorne Moor SAC), adding a further 1 kg N/ha/yr was shown to decrease species richness by 0.9%. Graminoid (grass) cover was found to increase by 1.5%. The maximum species richness recorded across the studies examined was 32.

Taking a species richness from the above of 32, an impact equivalent to 3.3 kgN/ha/yr would theoretically be required to reduce species richness across the SAC by an average of one species (per quadrat). The maximum predicted in-combination impact of the Proposed Scheme with other plans and projects is 0.09 kgN/ha/yr, equivalent to approximately 2.7% of the amount required to reduce species richness by an average of one species per quadrat. This level of deposition falls within the bounds of natural variation and is predicted to lead to negligible (and imperceptible) vegetative change across the SAC. As highlighted in paragraph 4.3.24 the in-combination impact has also been modelled based on several conservative assumptions, and in reality, deposition rates would be lower.

The Applicant recognises NE's observation that '…*the "loss of one species" calculation does not recognise that species-richness or inter-species competitiveness may be impacted at much lower rates…"*

The Applicant does not consider that the relevant part of NERC210 referred to by NE (we understand Table 21) relates directly to the loss of one species and has not

				recognise that species richness or inter-species competitiveness may be impacted at much lower rates, and it may be these measures that are more important indicators of "site integrity." Other methods of assessment are described in the NECR210 report. Therefore, additional evidence should be provided to assess whether the development would undermine the conservation objectives, by the addition of 1.7% nitrogen deposition in-combination. Examples of such evidence may include the sensitivity of the species present in this case, any trends in N dep in the area, the spatial extent of the SAC impacted and the characteristics and specific environmental conditions at the site concerned. If adverse effect cannot be ruled out, then further mitigation may be required. <u>River Derwent SAC</u>			treated NERC210 on this basis. Table 21 relates to overall species richness; a reduction in species richness of one, is not the same as the loss of one species and this is recognised. The assessment provided in the Applicant's HRA report considered the species richness response in Table 21; it also considered other aspects of the NERC210 research, such as the potential change in graminoid (grass) cover, as informed by Table 20 of the NERC210 report. Table 22 of the NERC210 report provides a summary of relationships between long term nitrogen deposition and changes in species cover or probability of presence, for five species commonly associated with bog habitats. At a baseline nitrogen deposition rate of 20 kgN/ha/yr (broadly equivalent to baseline deposition rates at Thorne Moor SAC) an increase of nitrogen deposition equivalent to 1 kgN/ha/yr is predicted to result in changes in species cover/probability of occurrence ranging between -0.01% and +1.5%. Extrapolating against the in-combination impact of the Proposed Scheme and other plans and projects (0.09 kgN/ha/yr*)*, these figures would be between -0.0054% and +0.108%. Again, this suggests the in-combination impact would have a negligible and imperceptible effect on the degraded raised bog vegetation communities within Thorne Moor SAC. <u>River Derwent SAC</u> We note NE's advice and have completed modelling of the habitat types referred to as a sensitivity test. The results have been passed to NE and we continue to engage with them regarding the results. The Applicant has reviewed MAGIC priority habitat mapping for bankside habitats of the River Derwent and note that there are limited extents of woodland habitats and virtually no 'fen, marsh and swamp' habitats along the river, within the 15 km ZoI of the Proposed Scheme's emissions. Habitats are dominated by agricultural land (arable and improved pasture) in the lower reaches of the Derwent closest to the Drax Power Station Site. Further north (between approximately 6 – 15 km from the Proposed Scheme) habitats adjacent to the river are dominated by 'lowland meadow' and 'coastal and floodplain grazing marsh', much of which is within the boundary of the Lower Derwent Valley SAC, SPA, Ramsar, and underpinning SSSI designations. We also note that much of the woodland adjacent to the River Derwent is inside the floodplain and would therefore likely be more properly described as 'alluvial woodland' (also a qualifying interest feature of the overlapping Lower Derwent Valley SAC) in many cases. This habitat type is not considered sensitive to nitrogen or acid deposition, as per APIS data for the Lower Derwent Valley SAC. The Applicant notes NE's comment that '*Although currently phosphate limited, it is difficult to predict tipping points in river systems and separate impacts due to multiple diffuse sources*'. As set out in the Nitrate / Phosphate Nutrient Limitation note completed for Drax Repower (Appendix 6 of the HRA Report, APP-194) and re-provided to Natural England, the N:P ratio in the river Derwent is heavily skewed towards phosphate limitation relative to the tipping point (see pages 4 and 5 of the Note), with a Nitrate-N:P ratio of 108.8:1. This compares to a tipping point of 7:1, as reported on APIS

				Natural England notes that our previous advice in the Section 42 response (dated 10 December 2021) and Discretionary Advice Service response (dated 5 May 2022) regarding potential air quality impacts on supporting habitats associated with the River Derwent Special Area of Conservation (SAC) has not been taken into account in the air quality assessment or Habitats Regulations Assessment - Volume 1 – Main Text (hereafter 'the HRA') documents. As stated in our advice dated 5 May 2022, potential air quality impacts on supporting habitats associated with the River Derwent SAC, including riparian habitats, such as wet woodland and fen, should be assessed. We note that no critical load has been provided for nitrogen deposition for the River Derwent SAC in the Environmental Statement - Volume 3 - Appendix 6.5: Operational Phase Air Quality Results Tables: Ecological			(APIS, 2016. Nitrogen deposition: Rivers and Streams). It is difficult to foresee a likely future scenario where this would change sufficiently such that the ratio would shift towards balance or N-limitation over the lifetime of the Proposed Scheme. It is commonplace for lowland freshwater habitats including rivers, to be P-limited rather than N-limited. The Applicant therefore considers the findings of the Nitrate / Phosphate Nutrient Limitation note remain valid and of significance for the findings of the HRA. Combined with the other evidence presented in the HRA Report (APP-185), the Applicant continues to consider there would be no adverse effect on the integrity of the River Derwent SAC and underpinning SSSI. We are continuing to discuss this matter with NE and welcome further engagement with them to seek to address this and other matters raised in their Relevant Representation.

				Receptors. As previously stated, we recommend that the critical load for the most sensitive riparian habitat type is used as a proxy value; the relevant critical levels/loads for 'Fen, Marsh and Swamp' and 'Broadleaved, Mixed and Yew Woodland' can be found on Air Pollution Information System (APIS) (2022) to inform the assessment. Natural England has advised the applicant that nutrient deposition should be considered in the Habitats Regulations Assessment (HRA). We broadly agree with the information included in the Briefing Note for Natural England about phosphate limitation in the River Derwent (DRAX Re-Power HRA Report) - revision 3 (dated November 2018). However, Natural England advises that a precautionary approach is taken to applying this information in the context of additional inputs of nitrates on the River Derwent SAC/SSSI. Although currently phosphate limited, it is difficult to predict tipping				

					points in river systems and separate impacts due to multiple diffuse sources. We would highlight that the Conservation Objectives Supplementary Advice (COSA) should be used to inform any Habitats Regulations Assessment (HRA) considering potential impacts on the SAC. The HRA should assess the effect the project will have in relation to quality of the river and impacts to the riparian habitats and what implications that will have on meeting the site targets, alone and in-combination.			

5.31

Table 1: Natural England's detailed advice

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
21	Internationally designated sites • Thorne Moor SAC	Impacts of ammonia from aerial emissions on Thorne Moor SAC designated features (in-combination). (O)	Section 4.3.39 of the HRA states that as the in-combination exceedance is 'only' marginally above 1% of the critical load there will be no perceptible impact to Thorne Moor SAC vegetation. Natural England does not accept this approach to round down to a whole number. Our concern is that this could lead to	Natural England notes that the DCO does not currently secure the mitigation measures proposed to reduce air quality impacts. The mitigation measures and a detailed monitoring plan should be secured within the DCO requirements. Natural England advises that the	AMBER

The Applicant notes Natural England's comments and is continuing to engage further with NE to understand in detail the additional information they consider could usefully be gathered in relation to site characteristics.

The Applicant has assessed the extent of Thorne Moor SAC experiencing an in-combination impact greater the 1% of the critical level for ammonia (NH_3). Approximately 12% of the SAC experiences an in-combination impact exceeding 1.00% of the critical level for NH_3. When rounding up or down to one decimal place, technically 2% of the SAC experiences an exceedance of 1.0% of critical level. The Applicant considers the former calculation more robust, although both metrics demonstrate the minor nature of the in-combination exceedance.

Air quality mitigation is secured by way of the permit variation application, not the DCO.

				situations where there are multiple process contributions, for example, 1.1% + 1.3% being screened out entirely, but when added together are significant. Where any PC has exceeded the 1% threshold and the P exceeds > 70% of the threshold, this triggers the requirement for further assessment to demonstrate that the proposed emissions will not damage or destroy the interest features for which the sites have been notified. Therefore, further evidence is required to assess whether the development is likely to result in an impact on integrity of the site. Examples of suitable evidence would be anticipated to include the sensitivity of the species present in this case, any trends in N dep in the area, the spatial extent of the SAC impacted and the characteristics and specific environmental conditions at the site concerned	requirement for additional mitigation measures will depend on the outcome of the assessment.			

5.32

Table 1: Natural England's detailed advice

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
22	Internationally designated sites • Lower Derwent Valley SAC and Ramsar • Thorne Moor SAC • River Derwent SAC • Skipwith Common SAC	Proposed mitigation for impacts of aerial emissions on Lower Derwent Valley SAC/Ramsar; Thorne Moor SAC; River Derwent SAC; and Skipwith Common SAC designated features. (O)	Section 4.2.170 of the HRA states that the mitigation reduces the acid deposition impact to Thorne Moor SAC to give no adverse effect on integrity, and section. 4.3.46 of the HRA states that the mitigation measures proposed reduce the acid deposition from the proposed development to give no adverse effect on Skipwith Common SAC. Acid deposition to Lower Derwent Valley SAC and Ramsar is also reduced but is 1.1% of the critical load with the mitigation. We advise that further clarification on the mitigation measures proposed is required to inform the assessment, including: • the scientific basis of the evidence, and how it would avoid or reduce effects on site; • How it would be implemented and by whom;	Natural England notes that the DCO does not currently secure the mitigation measures proposed to reduce air quality impacts. The mitigation measures and a detailed monitoring plan should be secured within the DCO requirements. Natural England advises that the requirement for additional mitigation measures will depend on the outcome of the assessment.	AMBER

The Applicant notes Natural England's comments, and provides the following response in relation to their queries on operational emissions control measures.

The installation will be regulated by the Environment Agency under the Environmental Permitting Regulations; these regulations will control the emissions to air from the plant and these emissions will include compounds associated with acid deposition including but not limited to Sulphur Dioxide. The application for a variation to the permit has been submitted to the Environment Agency and this variation includes a decrease in concentrations of Sulphur Dioxide from the units associated with BECCS (units 1 and 2). The assessment undertaken is based on the permit limits which have been applied for as a realistic worst-case scenario.

The BECCS technology includes a quencher system (a recirculating water spray system removing condensable components in the flue gas) which reduces the Sulphur load which enters the absorber system and which eventually is emitted to atmosphere. In addition, biomass has a relatively low sulphur content and Drax Power Station will operate to a maximum percentage of sulphur content within the fuel basket. All of these data are monitored, recorded and reported to the regulator. The Environmental Permit will be in place prior to the commercial operation of the installation and will remain in place unless varied during the lifetime of the plant.

If the plant were to fail, then the operator is duty bound to inform the regulator of Other Than Normal Operating Conditions (OTNOC) and should agree with the regulator what actions should be taken to rectify the situation.

				• The degree of confidence in its success; • The timescale over which it will be implemented, maintained and managed; • How the measures will be secured, monitored and enforced; • If the measure failed, how the failure will be rectified. Please also confirm whether there is an appropriate example of an existing development where the proposed mitigation has been effective. We also note an increase in temperature of the flue gas is proposed as part of the mitigation measures. We anticipate this may may result in dispersion of pollutants further away from the development site and over a wider area. Therefore, it should also be clarified whether the in-combination assessment has accounted for this.			
5.33	Table 1: Natural England's detailed advice Natural England key / Topic / Issue Summary (C) Construction / Natural England commentary and advice on the further / Natural England commentary and advice on the further / Risk							Please see our response to Row 5.28 (NE Key Issue 18) noting that the SSSI sites are primarily located within the same locations as the European protected sites discussed in that response, and/or are designated for comparable features with comparable critical loads.

issue reference		phase (O) Operational phase	information required to enable assessment	information required to enable assessment	
23	Nationally designated sites • Breighton Meadows SSSI • Derwent Ings SSSI • Melbourne and Thornton Ings SSSI • Humber Estuary SSSI • River Derwent SSSI • Eskamhorn Meadows SSSI • Barn Hill Meadows SSSI • Burr Closes SSSI • Thorne, Crowle, and Goole Moors SSSI • Skipwith Common SSSI • Thorne Crowle and Goole Moors SSSI • Went Ings Meadows SSSI	Clarification on scenarios used to assess the impacts from aerial emissions on Breighton Meadows SSSI; Derwent Ings SSSI; Melbourne and Thornton Ings SSSI; Humber Estuary SSSI; River Derwent SSSI; Eskamhorn Meadows SSSI; Barn Hill Meadows SSSI; Burr Closes SSSI; Thorne, Crowle, and Goole Moors SSSI; and Skipwith Common SSSI. (O)	Our advice regarding the scenarios used to assess scenarios used to assess the impacts from aerial emissions on Breighton Meadows SSSI; Derwent Ings SSSI; Melbourne and Thornton Ings SSSI; Humber Estuary SSSI; River Derwent SSSI; Eskamhorn Meadows SSSI; Barn Hill Meadows SSSI; Burr Closes SSSI; Thorne, Crowle, and Goole Moors SSSI; and Skipwith Common SSSI coincides with our above advice regarding the Humber Estuary SPA/SAC; Lower Derwent Valley SAC/SPA/Ramsar; Thorne Moor SAC; River Derwent SAC and Skipwith Common SAC (Natural England key issue reference 18). This clarification should also consider additional relevant nationally designated sites Eskamhorn Meadows SSSI, Barn Hill Meadows SSSI and Burr Closes SSSI.	Natural England's advice regarding mitigation measures coincides with our advice regarding internationally designated sites as detailed above (Natural England key issue reference 18).	AMBER

5.34	Table 1: Natural England's detailed advice **Natural England key issue reference** | **Topic** | **Issue Summary (C) Construction phase (O) Operational phase** | **Natural England commentary and advice on the further information required to enable assessment** | **Natural England commentary and advice on the further information required to enable assessment** | **Risk** **24** | Nationally designated sites • Barn Hill Meadows SSSI • Breighton Meadows SSSI • Derwent Ings SSSI | Impacts of acid deposition from aerial emissions on Barn Hill Meadows SSSI, Breighton Meadows SSSI, Derwent Ings SSSI (alone and incombination) (O) | <u>Barn Hill Meadows SSSI</u> Natural England notes Table 6.18 of Environmental Statement – Volume 1 Chapter 6: Air Quality states that after mitigation the maximum process contribution is 1.1% of the critical level for Barn Hill Meadows SSSI, when considering the project alone. Therefore, based on the information provided, the project could have potential significant effects on the interest features for which the Barn Hill Meadows SSSI site has been notified. However, no assessment has been provided of these results in 6.1.8 Environmental Statement - Volume 1 - Chapter 8: Ecology or other documents. Therefore, we are not yet satisfied that the project is not likely to damage features of interest of Barn Hill Meadows SSSI and additional information and assessment should be provided. | Natural England's advice regarding mitigation measures coincides with our advice regarding Lower Derwent Valley SAC/Ramsar as detailed above (Natural England key issue reference 19). | AMBER	Please see our response to Row 5.29 (NE Key Issue 19).

				Breighton Meadows SSSI and Derwent Ings SSSI Our advice regarding the potential impacts of acid deposition from aerial emissions on the Breighton Meadows SSSI andDerwent Ings SSSI coincides with our advice regarding the potential impacts upon the Lower Derwent Valley SAC as detailed above (Natural England key issue reference 19).			

5.35

Table 1: Natural England's detailed advice

Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
25	Nationally designated sites	Impacts of nitrogen deposition from aerial emissions on Thorne, Crowle, and Goole Moors SSSI (in-combination); and River Derwent SSSI (alone and incombination) (O).	Our advice regarding the potential impacts of nitrogen deposition from aerial emissions upon the Thorne, Crowle, and Goole Moors SSSI and River Derwent SSSI coincides with our advice regarding the potential impacts upon the Thorne Moor SAC and River Derwent SAC as detailed above (Natural England key issue reference 20) .	Natural England's advice regarding mitigation measures coincides with our advice regarding Thorne Moor SAC and River Derwent SAC as detailed above (Natural England key issue reference 20).	AMBER

Please see our response to Row 5.30 (NE Key Issue 20).

5.36

Table 1: Natural England's detailed advice

Natural England	Topic	Issue Summary (C)	Natural England commentary and	Natural England commentary and	Risk

Please see our response to Row 5.32 (NE Key Issue 22).

	key issue reference		Construction phase (O) Operational phase	advice on the further information required to enable assessment	advice on the further information required to enable assessment	
	26	Nationally designated sites • Barn Hill Meadow • Breighton Meadows SSSI • Derwent Ings SSSI • Melbourne and Thornton Ings SSSI • Thorne, Crowle, and Goole Moors SSSI • River Derwent SSSI • Skipwith Common SSSI	Proposed mitigation for impacts of aerial emissions on Barn Hill Meadows; Breighton Meadows SSSI; Derwent Ings SSSI; Melbourne and Thornton Ings SSSI; Thorne, Crowle, and Goole Moors SSSI; River Derwent SSSI; and Skipwith Common SSSI. (O)	Our advice regarding proposed mitigation for impacts of aerial emissions on Breighton Meadows SSSI; Derwent Ings SSSI; Melbourne and Thornton Ings SSSI; Thorne, Crowle, and Goole Moors SSSI; River Derwent SSSI; and Skipwith Common SSSI coincides with our advice regarding Lower Derwent Valley SAC/Ramsar; Thorne Moor SAC; River Derwent SAC; and Skipwith Common SAC (Natural England key issue reference 21). This assessment should also consider additional relevant nationally designated site Barn Hill Meadows SSSI.	Natural England's advice regarding mitigation measures coincides with our advice regarding internationally designated sites as detailed above (Natural England key issue reference 21).	AMBER
5.37	Table 1: Natural England's detailed advice					Please see our response to Row 5.32 (NE Key Issue 22).
	Natural England key issue reference	Topic	Issue Summary (C) Construction phase (O) Operational phase	Natural England commentary and advice on the further information required to enable assessment	Natural England commentary and advice on the further information required to enable assessment	Risk
	26	Nationally designated sites	Proposed mitigation for impacts of aerial	Our advice regarding proposed mitigation for impacts of aerial	Natural England's advice regarding mitigation measures coincides with our	AMBER

		• Barn Hill Meadow • Breighton Meadows SSSI • Derwent Ings SSSI • Melbourne and Thornton Ings SSSI • Thorne, Crowle, and Goole Moors SSSI • River Derwent SSSI • Skipwith Common SSSI	emissions on Barn Hill Meadows; Breighton Meadows SSSI; Derwent Ings SSSI; Melbourne and Thornton Ings SSSI; Thorne, Crowle, and Goole Moors SSSI; River Derwent SSSI; and Skipwith Common SSSI. (O)	emissions on Breighton Meadows SSSI; Derwent Ings SSSI; Melbourne and Thornton Ings SSSI; Thorne, Crowle, and Goole Moors SSSI; River Derwent SSSI; and Skipwith Common SSSI coincides with our advice regarding Lower Derwent Valley SAC/Ramsar; Thorne Moor SAC; River Derwent SAC; and Skipwith Common SAC (Natural England key issue reference 21). This assessment should also consider additional relevant nationally designated site Barn Hill Meadows SSSI.	advice regarding internationally designated sites as detailed above (Natural England key issue reference 21).		
5.38	Table 2: Natural England's detailed advice Page: **38** | DCO refernce: Schedule 2 – Requirement 6 | Natural England's comments: Natural England welcomes Requirement 6, including the reference to the relevant items in the register of environmental actions and commitments, and highlights that it is essential to the robustness of the Habitats Regulations Assessment. | Risk (Red/Amber/Green: GREEN						The Applicant notes the response and agrees with Natural England.
5.39	Table 2: Natural England's detailed advice Page: **38** | DCO refernce: Schedule 2 – | Natural England's comments: Natural England broadly welcomes Requirement 7. However, Requirement 7 currently does not make reference to biodiversity net gain | Risk (Red/Amber/Green: AMBER						The 10% biodiversity net gain is proposed to be secured via the section 106 agreement. This is because the biodiversity net gain is proposed to be delivered via onsite provisions, off-site provision and a contribution towards offsite provision, and the Applicant's position is that these elements are more appropriately secured via the section 106 legal agreement. It is important to note that the 'strategy' itself (which is the document secured by Requirement 7) will not secure the full 10% biodiversity net gain in line with the requirements of the metric. That will be delivered by the

<table>
<tr><td></td><td><table>
<tr><td></td><td>Requirement 7</td><td>commitments. We recommend that Requirement 7 should include commitments to secure a 10% biodiversity net gain, update net gain calculations utilising the Defra Biodiversity metric based on final plans, and reference to the 30-year management and monitoring period. Detailed advice is included in Table 1 above (Natural England reference 11).</td><td></td></tr>
</table></td><td>additional water BNG works required discussed above, which are separate from the strategy. As such, it would not be appropriate for the Requirement to refer to 10% BNG in relation to the strategy only.

As stated in its letter of 30 September (AS-017), the Applicant is developing the section 106 agreement which will secure the overall biodiversity net gain requirements for the Proposed Scheme in discussions with the local planning authorities. This includes management and monitoring requirements in line with the commitments set out in the Heads of Terms (which includes a commitment to 30 years) (AS-016).</td></tr>
<tr><td>5.40</td><td>Table 2: Natural England’s detailed advice<table>
<tr><td>Page</td><td>DCO refernce</td><td>Natural England’s comments</td><td>Risk (Red/Amber/Green</td></tr>
<tr><td>38</td><td>Schedule 2 – Requirement 8</td><td>Natural England welcomes Requirement 8 and highlights that the principles set out in the outline lighting strategy are essential to the robustness of the Habitats Regulations Assessment.</td><td>AMBER</td></tr>
</table></td><td>The Applicant notes the response.</td></tr>
<tr><td>5.41</td><td>Table 2: Natural England’s detailed advice<table>
<tr><td>Page</td><td>DCO refernce</td><td>Natural England’s comments</td><td>Risk (Red/Amber/Green</td></tr>
<tr><td>40</td><td>Schedule 2 - Requirement 14</td><td>Natural England welcomes Requirement 14 and highlights that the construction environmental management plan (CEMP) is essential to the robustness of the Habitats Regulations Assessment.

We note that the requirement for additional mitigation measures will depend on the outcome of the assessment of potential impacts on internationally and nationally designated sites (Table 1 above).

We also highlight that additional information regarding sustainable soil management should be included in the Soil Handling Management Plan (SHMP) as part of the CEMP (Natural England key issue reference 17 in Table 1 above).</td><td>AMBER</td></tr>
</table></td><td>As set out above, Requirement 14 of Schedule 2 of the draft DCO (OD-002) requires the submission to the LPA and approval of a CEMP prior to the commencement of construction, and for the CEMP to include the measures set out in the REAC (AS-092).

This means that the requirement for any additional mitigation measures that need to be incorporated into the CEMP can be considered by the LPA at that stage and in the full knowledge of the assessment of potential impacts.

The requirement to produce a Soil Management Handling Plan has been included in the REAC at Ref ID GC2. The mitigation within the REAC will be secured by requirements in the DCO including the requirement for a Soil Management Handling Plan to be produced as part of the CEMP for the Proposed Scheme. Ref ID GC2 within the REAC has been updated in response to comments received from Natural England in their relevant representation and an updated version of the REAC (AS-092) has been resubmitted alongside this Relevant Representation response.

It is therefore considered that a suitable and robust control mechanism is in place.</td></tr>
<tr><td>5.42</td><td>Table 2: Natural England’s detailed advice<table>
<tr><td>Page</td><td>DCO refernce</td><td>Natural England’s comments</td><td>Risk (Red/Amber/Green</td></tr>
</table></td><td>As set out above, Requirement 15 of Schedule 2 of the draft DCO (OD-002) requires the submission to the LPA and approval of a Construction Traffic Management Plan prior to the commencement of construction.</td></tr>
</table>

	41	Schedule 2 – Requirement 15	Natural England welcomes Requirement 15 and highlights that it is essential to the robustness of the Habitats Regulations Assessment. We note that the requirement for mitigation measures will depend on the outcome of the assessment of potential impacts on internationally and nationally designated sites (Natural England key issue reference 2 and 9 in Table 1 above).	AMBER		This means that the requirement for any additional mitigation measures can be considered by the LPA at that stage and in the full knowledge of the assessment of potential impacts.

5.43	Table 2: Natural England's detailed advice					The Applicant notes the response.
	Page	DCO refernce	Natural England's comments	Risk (Red/Amber/Green		
	41	Schedule 2 – Requirement 17	Natural England welcomes Requirement 17 and highlights that it is essential to the robustness of the Habitats Regulations Assessment.	GREEN		

5.44	Table 2: Natural England's detailed advice					Requirement 18 details that the undertaker must submit to the relevant planning authority for its approval a decommissioning environmental management plan. Given that decommissioning of any part of the Proposed Scheme is not anticipated to take place for at least 25 years it was not considered appropriate to secure specific decommissioning environmental management measures. This is because it is anticipated that, during this time, there would be likely technological, legislative and good practice developments associated with environmental management of the decommissioning of the Proposed Scheme. Additionally, given that the relevant planning authority would approve the plan, this would ensure that the measures included within it are acceptable to them. The REAC does however include the following text within paragraph 1.1.6: "Given that it is not currently possible to predict the activities that will be involved in the decommissioning of the Proposed Scheme, specific detail for the DEMP has not been included in this REAC. Those measures that are detailed below that apply to pre-construction and construction stages of the Proposed Scheme will however be considered in the production of the DEMP and the DEMP will be approved by the LPA prior to commencing decommissioning." The Applicant recognises that whilst the specifics of the measures in the REAC (AS-092) may change over time, the principles behind them are likely to remain relevant. As such, the Applicant proposes to amend Requirement 18 to provide that the DEMP be substantially in accordance with the principles set out in the REAC.
	Page	DCO reference	Natural England's comments	Risk (Red/Amber/Green		
	42	Schedule 2 - Requirement 18	Natural England welcomes Requirement 18 and highlights that it is essential to the robustness of the Habitats Regulations Assessment. However, we note that the draft DCO Schedule 2 Requirement 18 does not make reference to the commitments in the Register of Environmental Actions and Commitments (REAC). We also note that the requirement for additional mitigation measures will depend on the outcome of the assessment of potential impacts on internationally and nationally designated sites (Natural England key issue reference 1-3 and 8-11 in Table 1 above).	AMBER		

5.45	Table 2: Natural England's detailed advice					The Applicant notes the response.
	Page	DCO refernce	Natural England's comments	Risk (Red/Amber/Green		
	42	Schedule 2 – Requirement 19	Natural England welcomes Requirement 19. We note that the requirement for mitigation measures will depend on the outcome of the assessment of potential impacts on internationally and nationally	AMBER		

			designated sites (Natural England key issue reference 2 and 9 in Table 1 above).			

NATIONAL GRID ELECTRICITY TRANSMISSION PLC

Table 6.1– National Grid Electricity Transmission Plc RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
6.1	As a responsible statutory undertaker, National Grid's primary concern is to meet its statutory obligations and ensure that any development does not impact in any adverse way upon those statutory obligations. As such, National Grid has a duty to protect its position in relation to infrastructure and land which is within or in close proximity to the draft Order Limits. As noted, National Grid's rights to retain its apparatus in situ and rights of access to inspect, maintain, renew and repair such apparatus located within or in close proximity to the Order Limits should be maintained at all times and access to inspect and maintain such apparatus must not be restricted. National Grid will require protective provisions to be included within the draft Development Consent Order (the "Order") for the Project to ensure that its interests are adequately protected and to ensure compliance with relevant safety standards. National Grid is liaising with the Applicant in relation to such protective provisions, along with any supplementary agreements which may be required. National Grid requests that the Applicant continues to engage with it to provide explanation and reassurances as to how the Applicant's works pursuant to the Order (if made) will ensure protection for those National Grid assets which will remain in situ, along with facilitating all future access and other rights as are necessary to allow National Grid to properly discharge its statutory obligations. National Grid will continue to liaise with the Applicant in this regard with a view to concluding matters as soon as possible during the DCO Examination and will keep the Examining Authority updated in relation to these discussions. National Grid wish to place on record that the DRAX4 (400kV) Substation (the "Drax Substation") has been designated as a Critical National Infrastructure ("CNI") site. As such, the Drax Substation site currently benefits from enhanced security measures, including a high security palisade fence, CCTV surveillance and 'anti-dig' foundations. External contractors are also subject to additional security screening before entering onto the site. In order to avoid any detrimental impact on the availability, integrity or delivery of essential services, National Grid request that the exercise of any powers pursuant to the Order which are likely to affect, or be undertaken within the vicinity of, the Drax Substation site be subject to appropriate restrictions so as to avoid interference with existing security measures. National Grid would be willing to engage with the Applicant in order to consider additional restrictions or other protective measures which are commensurate with the designation of the Drax Substation. Compulsory Acquisition Powers in respect of the Project.	Article 28 of the draft DCO (OD-002) gives the undertaker certain powers in relation to compulsory acquisition of rights belonging to statutory undertakers within the Order limits. That article is subject to the protective provisions in Schedule 12 of the draft DCO, which provide adequate protection for statutory undertakers' assets. Accordingly, the Applicant considers that the statutory undertakers will not suffer serious detriment to the carrying on of their undertaking. In the case of NGET, the Applicant's draft DCO (OD-002) includes provisions for the protection of NGET (Part 3, Schedule 12). Paragraph 23 of the protective provisions provides that the Applicant may not appropriate or acquire or take temporary possession of any land interest or appropriate, acquire, extinguish, interfere with or override any easement, other interest or right and/or apparatus of National Grid otherwise than by agreement. Under paragraph 26 of the protective provisions, NGET's consent is also required for any "specified works", which includes works within 15 metres of NGET apparatus or works which may otherwise adversely affect NGET's apparatus. The ability of the Applicant to exercise the powers in the DCO with respect to NGET's interests and apparatus is therefore subject to the above restrictions in the DCO. In addition, the Applicant continues to negotiate with NGET with respect to the protective provisions, to ensure protective provisions are in place that are satisfactory to NGET. The Applicant therefore considers that NGET will not suffer serious detriment to the carrying on of their undertaking, given the above controls and protections that are intended to be in place. The land included within the Order Limits has been incorporated to account for the different design responses that may be required by NGET in their Mod App response to us and as we cannot fully anticipate what they may require the Applicant has allowed for the various possibilities which may need to be delivered.
6.2	As noted, where the Applicant intends to acquire land or rights, or interfere with any of National Grid's interests in land, National Grid will require further discussion with the Applicant. National Grid reserves the right to make further representations as part of the Examination process in relation to specific interactions with its assets but in the	

Response Ref.	Relevant Representation Comment	Applicant's Response
	meantime will continue to liaise with the Applicant with a view to reaching a satisfactory agreement. In particular, National Grid has concern over the extent of Work No. 1F on the works plans and the land included within Plot 01-23 on the Land Plans. Plot 01-23 extends over the entirety of the Drax Substation site. This work and the extent of the land in Plot 01- 23 is disproportionate and includes more land than National Grid consider is necessary to connect to the Drax Substation. National Grid do not consider that this meets the tests for compulsory acquisition pursuant to the Planning Act 2008 and requests that the Applicant reconsider this. Plot 01-23 houses existing operational assets belonging to National Grid and should not, therefore, be subject to the proposed powers of compulsory acquisition. National Grid requests that the extent of Plot 01-23 is reduced so as to avoid interference with NGET's existing operational assets. Whilst the DCO includes plot 01-23 in Schedule 8 the extent of the rights that the Applicant is proposing to acquire over Plot 01-23 are so broad that, in effect, they amount to the acquisition of the land; they allow the Applicant to remove buildings and apparatus, and this is disproportionate in respect of an electrical connection to National Grid's infrastructure. This would cause serious detriment to National Grid's undertaking. The same considerations apply to plots 01- 20, 01-22 and 01-25. Connections The Project proposes a connection to Drax Substation. In relation to the connection National Grid is working with the Applicant to enter into connection agreements and other commercial arrangements at the relevant time. Further updates will be provided in the Statement of Common Ground.	

NATIONAL GRID CARBON LIMITED

Table 7.1 – National Grid Carbon Limited RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
7.1	This is a Relevant Representation submitted by National Grid Carbon Limited (NGCL) requesting that NGCL is treated as an Interested Party throughout the Examination process of the Development Consent Order (DCO) application for The Drax Power Station Bioenergy with Carbon Capture Storage Extension Project (PINS ref: EN010120). NGCL, as part of National Grid Ventures, is a division of National Grid plc, responsible for both developing and operating businesses in our UK and US territories, and is proposing to develop Humber Low Carbon Pipelines (HLCP); the deployment of a terrestrial pipeline network in the Humber region. HUMBER LOW CARBON PIPELINES (HLCP) PROJECT The HLCP Project intends to establish a pipeline network in the region to transport carbon dioxide (CO2) and hydrogen (H2) to facilitate Carbon Capture Usage and Storage (CCUS). HLCP is in the pre-application stage, with stakeholder engagement underway. This includes dialogue with the Planning Inspectorate over the potential form and content of its associated future DCO application, which will be inclusive of the terrestrial environment only to Mean Low Water Springs (MLWS) (PINS ref: EN070006). A non–statutory consultation was held in Autumn 2021 on a number of potential network configurations in respect of the proposed CO2 and H2 pipelines. A preferred route corridor was announced by NGCL in Spring 2022. NGCL is currently developing and carrying out further assessments to refine pipeline routeing and above ground installation siting within this route corridor, ahead of a statutory consultation planned for later this year. The CO2 export pipeline below MLWS and the CO2 storage site under the North Sea (known as the Endurance saline aquifer) will be the subject of separate consent applications, under the Petroleum Act 1998 and the Energy Act 2008, being promoted by the licensed operator of the store, bp, on behalf of the Northern Endurance Partnership. NGCL is part of the East Coast Cluster (ECC) bid, combining Humber and Teesside regions, as submitted to the department of Business Energy and Industrial Strategy (BEIS) as part of the CCUS cluster sequencing consultation. On 19 October 2021, BEIS announced that ECC, along with the HyNet northwest cluster, had been confirmed as Track-1 clusters for deployment in the mid-2020s and would therefore be taken forward in to Track-1 negotiations. On 12 August 2022, BEIS announced that a short list of power CCUS, industrial carbon capture, waste and CCUS-enabled hydrogen projects to connect to the Track-1 clusters had been selected to proceed to the due diligence stage of the Cluster Sequencing programme. On 24 August 2022, BEIS also launched a call for submissions from power bioenergy with carbon capture and storage projects seeking to take part in Track-1 of the CCUS Cluster Sequencing programme. NGCL's role in the deployment of CCUS at scale in the Humber means that close working with emitters such as Drax Power Station is key. The HLCP network is the proposed infrastructure for transporting the CO2 captured at the power station that is the subject of this application to the interface at landfall with the offshore pipelines for onward transportation to the Endurance saline aquifer for storage. NGCL's interest relates to the interface between the Drax project and HLCP, which includes the proposed CO2 export connection and associated Works. It is also proposed that the HCLP network will transport H2. Work No. 2 in the dDCO represents the point at which the authorised development would deliver pressurised CO2 to NGCL's network. Work No. 2 is comprised of two potential options, but only one of these would be implemented. The first option would involve the construction of a CO2 delivery terminal compound and CO2 pipeline connecting that compound to a terminal point within the Order limits (Option 1). Option 1 would be delivered in full pursuant to this Order. The second option would involve the construction of a CO2 delivery pipeline to a terminal point within the Order limits (Option 2). Accordingly, Option 2 would not, if pursued,	This is noted, and the comments in particular relating to the Applicant's Work No. 2 and the optionality in that respect are agreed and welcomed.

Response Ref.	Relevant Representation Comment	Applicant's Response
	include the construction of a terminal compound, which would be delivered, outside the Order limits, on a separate basis to this application. Since the precise nature of the interface between the authorised development and the HCLP network is still to be defined, NGCL considers that the approach taken by the Applicant to the drafting of Work No. 2 is appropriate.	
7.2	Protective provisions are currently included in the dDCO for National Grid Gas and National Grid Electricity Transmission; NGCL would also wish to see protective provisions for its benefit, recognising the future interface between the authorised development and the HCLP network, and has provided a copy of its preferred Protective Provisions to the Applicant in April 2022. A response to these is awaited. NGCL would also be happy to conclude a Statement of Common Ground with the Applicant.	The Applicant is agreeable to including protective provisions in the draft DCO (OD-002) for the protection of NGCL and management of the interface between the authorised developments. The Applicant is in discussions with NGCL with respect to the protective provisions it has proposed. The Applicant is also in active discussions with NGCL. The status of these discussions are set out in a Statement of Common Ground between the Applicant and NGCL that is submitted alongside this document.

THE CANAL AND RIVERS TRUST

Table 8.1 – Canal and Rivers Trust RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
8.1	The Canal & River Trust is the Navigation Authority and Harbour Authority for the River Ouse to the north and west of the Drax Power Station Site. Our primary interest in this proposal is to ensure that there are no adverse impacts on navigation on the river or upon general navigational safety. From the information available, we are satisfied that the proposed works closest to the River Ouse, involving the installation/strengthening of hedgerows described in the Landscape and Biodiversity Strategy, should not have a significant impact on the Trust's management of the waterway. If the nature of these works were to be changed throughout the Examination process, the Trust would want to be kept informed of this as a matter for ongoing consideration. From the documents submitted with the application, it does not appear that the applicant proposes to apply for a variation to the existing abstraction licence at this stage. However, should the applicant seek to alter the existing abstraction licence to cover a reduced amount, under section 66 of the Water Resources Act 1991, it would be the Trust, in our capacity as Navigation and Harbour Authority for the River who would need to make that application to vary.	The Applicant does not intend to apply for a variation to the existing abstraction licence under the current conditions. The Applicant agrees with the position in respect of works not affecting the River Ouse, and there is no intention to change this position. If this position changes, then the applicant will advise the Canal & Rivers Trust should this position change.

THE UK HEALTH SECURITY AGENCY

Table 9.1 – The UK Health Security Agency RR Response

Response Ref.	Relevant Representation Comment	Applicant's Response
9.1	The UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID) (formerly Public Health England) welcomes the opportunity to comment at this stage of the Nationally significant Infrastructure Project (NSIP). We can confirm that with respect to Registration of Interest documentation, we are reassured that earlier comments raised by us on 6th December 2021 have been addressed. In addition, we acknowledge that the Environmental Statement (ES) has not identified any issues which could significantly affect public health. UKHSA/OHID are satisfied with the methodology used to undertake the environmental assessment but notes the ongoing discussions between the Environment Agency (EA) and other relevant agencies regarding the precise makeup of the proprietary solvents proposed for use in the carbon capture process. UKHSA is satisfied that the risk assessment approach is appropriate and in line with emerging evidence. UKHSA also notes the proposed development will require a variation to the existing Environmental Permit from the EA to operate and that further risk assessment of the potential emissions from the carbon capture process and solvents will form part of that permitting process. Following our review of the submitted documentation we are satisfied that the proposed development should not result in any significant adverse impact on public health. On that basis, we have no additional comments to make at this stage and can confirm that we have chosen not to register an interest with the Planning Inspectorate.	The Applicant welcomes these comments from the UK Health Security Agency and agrees with its comments.

USE OF EMERGING TECHNOLOGY

Table 10.1 – Use of Emerging Technology

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
10.1	The proposed CCS technology both requires additional energy at the power plant (estimated to be about 29%, and the Applicant acknowledges at least 28%) and does not have a 100 percent capture rate (instead, it is 90-95%). When considering the additional energy required for CCS technology, combined with the 95 percent capture rate, it is estimated that generating 1 megawatt-hour at a BECCS power plant leads to 779 kg CO2e, which is alarmingly close to the amount of pollution that a coal plant emits.	The Proposed Scheme will not require any additional fuel to operate. The CCS plant will require energy which will be derived from the existing biomass units, hence not releasing anymore CO_2. Since the CCS unit is being supplied with energy from the biomass unit, there will be a reduction in electricity exported to the grid. The Proposed Scheme delivers two vital products which are electricity generation and carbon dioxide removal, as opposed to a single product which Drax Power Station currently delivers. The Proposed Scheme would allow the Applicant to deliver flexible electricity generation as it does currently, and to offer carbon capture in addition to electricity generation dependant on UK needs. The carbon dioxide released from the combustion process will be captured and we expect the capture rate to be approximately 95%. The response makes reference to a figure of 779 kg CO_2e although this figure is not accompanied by any derivation. Volume 3, Appendix 15.2 (Proposed Scheme GHG Emissions Calculation) (APP-169) includes the information and data associated with GHG calculations within Table 1.1. This leads to a figure of -978 kg CO_2e/MWh.	RR-006; RR-007; RR-008; RR-011; RR-032; RR-044; RR-073; RR-080; RR-115; AS-040.
10.2	We do not believe that this unproven technology will work. Carbon Capture and Storage (CCS) is experimental and untried. It has only been tested in experimental, small scale trials; there is no full-scale CCS facility operating on a wood burning power station anywhere in the world. This is despite CCS technologies having been in development for over 45 years.	The post combustion capture process removes the carbon from the flue gas stream and does not differentiate between the fuel type, this process, as noted, is not new and has been developed over the past 45 years. The solvent technology that drives the process has been evolving over that time frame. With the choice of the MHI KS21 solvent, the Applicant will be using the very latest version of that solvent technology. The KS21 solvent has been shown to outperform its predecessor in numerous trials including within the Drax Power Station CCS incubation facility, will provide a scalable solution and is now the primary product being offered by MHI in this market. The UK Government quite clearly sees the need for BECCS at scale and that this need is reflected in the Government's Biomass Policy Statement published in November 2021 as well as the Net-Zero Strategy – Build Back Greener published October 2021, and the recent consultation on business models for power BECCS. Para 42 of the Net-Zero Strategy provides the following information regarding how the Government assesses the technological development of BECCS: 'Bioenergy has already played a significant role in decarbonising the electricity system, accounting for 12.6% of total renewables generation in 2019.15 Technological changes mean that biomass usage can now go beyond carbon-neutral and deliver negative emissions by combining it with carbon capture and storage (BECCS).'	RR-005; RR-006; RR-013; RR-015; RR-016; RR-030; RR-040; RR-057; RR-067; RR-089; RR-092; RR-123; RR-208; RR-209; RR-270;

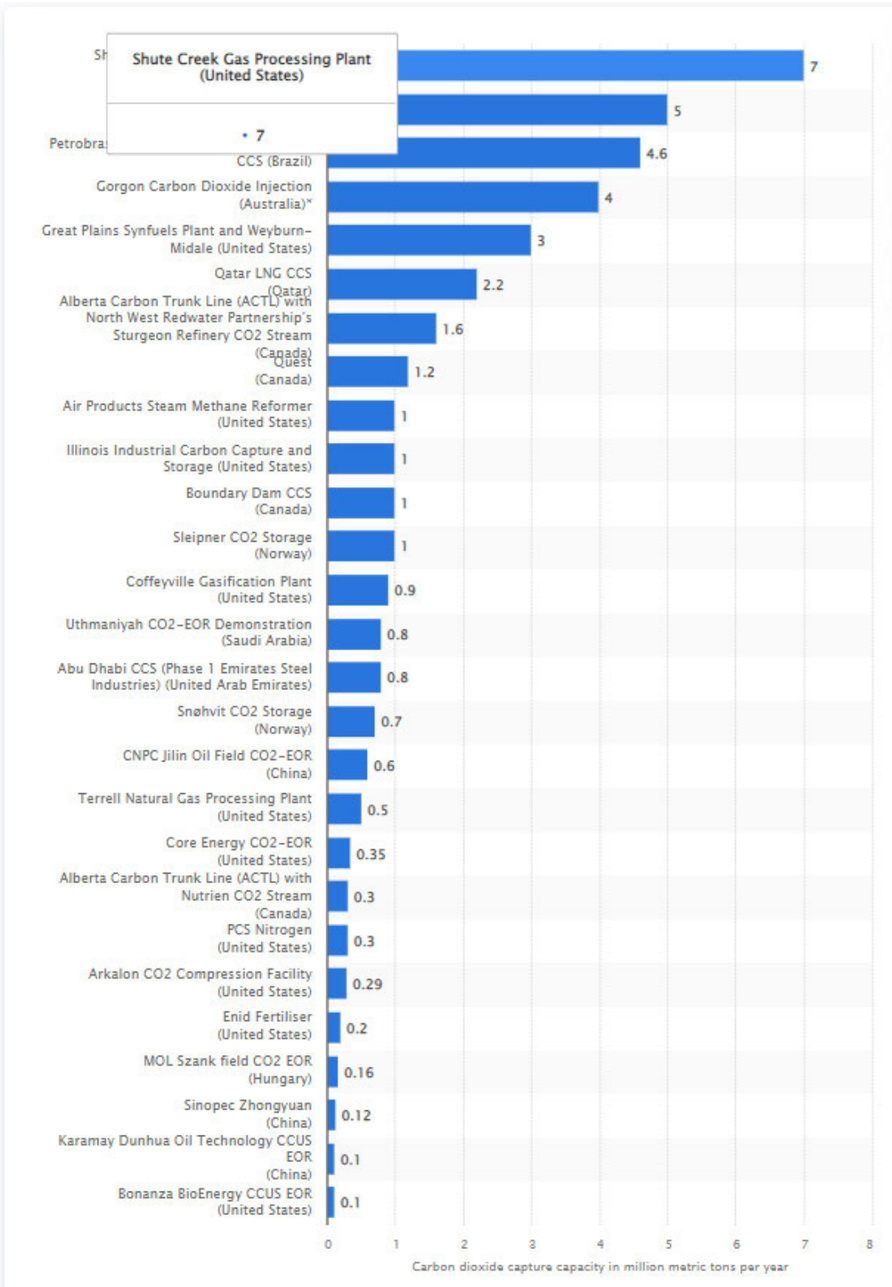
Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
10.3	We do not have confidence in the project's likely success. Drax Power Station has run short, small-scale CCS pilots and has succeeded in extracting one tonne of CO2 per day from its flue gases. This DCO Application would require a massive scaling up, calculated to be approximately 40,000 times larger than the trail, and there is no guarantee that such scaling up would be successful: scaling up industrial processes of this nature is certainly not straightforward. The Applicant has recently stated that the full-scale CCS plant will not use the same technology (C-capture) used in the pilot project raising further questions about the likely success of the Application.	The flue gas generated from biomass combustion is not significantly different to flue gas from other pulverised fuel units and the ability to remove carbon dioxide from it. CCS technology has been installed at scale at various facilities around the world, most using post combustion capture technology. The vendor has proven this type of CCS technology at scale with various facilities including the Petra Nova Project based in Houston, USA. According to the IEA there are 35 large scale CCUS facilities operating globally and are capturing around 45Mt of CO_2 per annum. In 2030, based on planned projects, the number of CCUS plant will increase to around 200 which would result in 230Mt of captured CO_2. The need for this type of Greenhouse Gas Removal Technology (GGR) is clear and is supported by the CCCs 6th Carbon budget which identified 'BECCS Power' as one of the technologies necessary to meet Government targets. The Applicant has successfully tested the solvent which will be utilised within the BECCS Proposed Scheme on the expected flue gas composition generated by the combustion of biomass. C-Capture is a developing technology which is being supported by the Applicant (and was subject to separate trials) but is not part of the Proposed Scheme.	RR-013; RR-029; RR-043
10.4	There is no data on the reliability of the proposed technology. It has not achieved continuous operation of carbon capture. So far, all captured CO2 has been released into the atmosphere.	CCS technology has been installed at scale at various facilities around the world, most using post combustion capture technology. The Applicant has operated pilot plant trials utilising the vendor's solvent and tested its performance on the expected flue gas composition. These trials have demonstrated the effectiveness of the solvent in capturing carbon dioxide. The compression and storage of CO_2 gas is also a well understood technological process and the plant proposed for the Proposed Scheme will follow established practice. The transport and storage infrastructure will be dealt with as a separate planning application by National Grid Ventures.	RR-013; RR-029; RR-043
10.5	The carbon capture technology developed by C-Capture, used in the Applicant's first BECCS pilot project starting in 2018, is not a proven technology.	C- Capture is a developing technology which is being supported by the Applicant but is not part of this Scheme.	RR-013; RR-029; RR-043
10.6	The design of the proposed development allows the operator to generate power from burning biomass even if the post carbon capture facility is not working. At such times, the development would be adding significantly to UK greenhouse gas emissions, contrary to government policy and jeopardising the UK's statutory commitment	It is first important to note that the burning of biomass does not constitute part of the proposed development. That can continue with or without BECCS without the need for any further consent. The development itself will have a positive impact on government policy (as recognised by the Government) by reducing greenhouse gas emissions.	RR-007; RR-018; RR-060; RR-091; RR-109; RR-151; RR-265; RR-214; RR-217

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	to achieve Net Zero and to fully decarbonise the UK's electricity system by 2035.	Deployment of BECCS at Drax Power Station will build on the current zero-rated performance of the biomass units to result in a substantial contribution of negative emissions towards the UK carbon budget and Net Zero targets, and will help to create a carbon negative electricity system. The Applicant currently operates four biomass units generating 660MW each. The units with BECCS installed will be capable of operating in both CCS mode as well as operating solely as a power generator dependant on grid requirements This statement is made in the context that the Applicant acknowledges and supports the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, which underpin the UK's Nationally Determined Contribution towards the Paris Agreement. These rules require that biogenic carbon emissions are calculated through changes in land carbon stock in the Agriculture, Forestry and Other Land Use (AFOLU) sector, not at the point of final emission (e.g. combustion or respiration). Such emissions are therefore 'zero-rated' at the point of combustion, with permanent capture therefore delivering negative emissions. *"If the [CCS] plant is supplied with biofuels, the corresponding CO_2 emissions will be zero (these are already included in national totals due to their treatment in the AFOLU sector), so the subtraction of the amount of gas transferred to long-term storage may give negative emissions. This is correct since if the biomass carbon is permanently stored, it is being removed from the atmosphere."* (IPCC, 2006. Guidelines for National Greenhouse Gas Inventories).	
10.7	According to the Applicant's planning document, carbon capture will reduce the net efficiency of the biomass boilers to just 28.49% as 28% of the energy generated by each unit will be needed to capture and compress CO_2. By decreasing electricity generation, it is highly likely that this will result in more fossil gas being burned in other power stations. This is contradictory to the Overarching National Policy Statement for Energy's commitment to reduce energy from fossil fuel use.	The BECCS project will be capable of providing secure and flexible generation as well as capturing carbon dioxide moving the UK toward the Government's Net-Zero target. National Grid are responsible for managing the security of supply for the country; The merit order defines which generating technologies are operating to meet demand. Drax Power Station is capable of delivering both biomass generating capacity as well as capturing carbon dioxide depending on electricity demand. As part of the Government's drive towards net-zero, gas fired generating plant are also developing CCS solutions to remove Carbon Dioxide. BECCS will be part of the East Coast Cluster which is designed to capture carbon from a range of emitters. All CCS plant when fitted to power generating technology will have an associated energy penalty, regardless of fuel type and therefore an impact of overall efficiency. BECCS can provide negative emissions which no other technology can provide at scale. National Policy (NPS EN-1) advocates that there are benefits of having a diverse mix of all types of power generation and hence reduces the dependence on any one type of fuel or power ensuring greater security of supply.	RR-009; RR-010; RR-011; RR-012; RR-013; RR-015; RR-018; RR-019; RR-027; RR-031; RR-034; RR-035; RR-036; RR-037; RR-038; RR-045; RR-050; RR-053; RR-054; RR-058; RR-062; RR-063; RR-070; RR-071; RR-072; RR-074; RR-075; RR-077; RR-078; RR-079; RR-081; RR-082; RR-084; RR-085; RR-086; RR-087; RR-088; RR-093; RR-094; RR-095; RR-096; RR-098; RR-099; RR-100; RR-101; RR-102; RR-103; RR-104; RR-105; RR-106; RR-107; RR-108; RR-110; RR-111; RR-113; RR-114; RR-117; RR-118; RR-120; RR-121;

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
			RR-122; RR-124; RR-125; RR-127; RR-129; RR-130; RR-131; RR-132; RR-133; RR-134; RR-135; RR-138; RR-139; RR-142; RR-143; RR-144; RR-145; RR-147; RR-148; RR-150; RR-153; RR-157; RR-159; RR-160; RR-164; RR-165; RR-166; RR-167; RR-168; RR-170; RR-171; RR-172; RR-174; RR-175; RR-178; RR-179; RR-180; RR-182; RR-183; RR 184; RR-185; RR-186; RR-187; RR-188; RR-190; RR-191; RR-192; RR-195; RR-196; RR-197; RR-199; RR-200; RR-201; RR-202; RR-203; RR-204; RR-206; RR-207; RR-210; RR-211; RR-213; RR-215; RR-218; RR-219; RR-220; RR-221; RR-223; RR-224; RR-225; RR-226; RR-227; RR-228; RR-230; RR-232; RR-233; RR-234; RR-235; RR-237; RR-238; RR-239; RR-241; RR-242; RR-244; RR-245; RR-247; RR-250; RR-251; RR-252; RR-253; RR-254; RR-255; RR-256; RR-257; RR-258; RR-259; RR-260; RR-261; RR-262; RR-263; RR-264; RR-266; RR-267; RR-268; RR-270; RR-271; RR-272; RR-273; RR-274; RR-275.
10.8	The assumptions made within the DCO Application are not based on real-world data about how a full-scale power station with CCS plant actually operates. Assumptions about the percentage of CO2 that can be captured and the 'energy penalty' required to do so might be	The data supporting the CO_2 capture capability comes from operational data collected from plants around the world and supported by guarantees from the technology provider. The electrical energy will be provided by a steam turbine servicing the carbon capture process only, the steam energy is provided by the steam after use generating the	RR-013; RR-015; AS-043

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	significantly inaccurate and render the entire project infeasible, either in energy or economic terms. This 'energy penalty' (together with the far from negligible carbon emissions of the power station's upstream biomass supply chain and contribution to lost sequestration) substantially reduces the amount of negative emissions the applicant could claim under a credible, necessarily global carbon accounting system.	power for the process. The steam condensate is then returned to the main boiler for re-heat. The Applicant has been progressing discussions with the Government in terms of the economic framework required in order to deliver the BECCS scheme. The Applicant believes that the risk of the Proposed Scheme, once built out, significantly under-performing is low. In any event, this is a commercial risk for the Applicant and the Government to determine and is not a planning matter. National Policy (NPS EN-1) advocates that there are benefits of having a diverse mix of all types of power generation and hence reduces the dependence on any one type of fuel or power ensuring greater security of supply. National Policy (NPS EN-1) advocates that there are benefits of having a diverse mix of all types of power generation and hence reduces the dependence on any one type of fuel or power ensuring greater security of supply. The supply chain emissions have been accounted for as an integral part of the GHG chapter and are clearly defined in appendix 15.2. Table 1.1 – Proposed Scheme GHG Emissions. Deployment of BECCS at Drax Power Station will result in a substantial contribution of negative emissions towards the UK carbon budget and Net Zero targets, and will help to create a carbon negative electricity system. The addition of CCS plant to power generating technology will always utilise additional electricity, regardless of fuel type and therefore an impact on overall efficiency. Nevertheless the use of CCS is a clear and recognised feature of Government policy and the Proposed Scheme will effectively result in the relevant units delivering two vital products (renewable electricity and negative emissions) compared to a single product (renewable electricity) without the Proposed Scheme. A reduction in the amount of exported power caused by the parasitic load of the relevant capture unit does not of itself impact the amount of fuel used in the generation process or associated carbon dioxide captured.	
10.9	The technology proposed for the development is not efficient, contrary to Government guidance on post-combustion carbon capture (Best Available Technique (BAT) Review for Post Combustion Carbon Capture, V1.0 published July 2021.	Carbon Capture technology has an inherent efficiency penalty associated with it, However, the integration of the carbon capture plant with the host generation plant allows more effective utilisation of heat and energy maximising the CO_2 captured per kJ of energy. The Applicant has been in discussions with the Environment Agency and has submitted its application for a variation to its Environmental Permit. The application identifies how the design complies with the Environment Agency's BAT guidance on post combustion carbon capture technologies and the Agency will take this into account in their decision making, as noted in their relevant representation (RR-051).	RR-018; AS-040.

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
10.10	The most recent review of carbon capture and storage technology found that power CCS had without exception failed or performed significantly below its efficiency targets. Predictions for BECCS at Drax Power Station should be adjusted downwards to take account of this, and considered as on a sliding scale of probability, not just the best-case scenario	It is not clear which review the response is alluding to. The data supporting the CO_2 capture capability comes from operational data collected from plants around the world and is supported by guarantees from the technology provider.	RR-021
10.11	The Application states "The Scheme is designed to remove approximately 95% of the carbon dioxide from the flue gas from these two Units, resulting in overall negative emissions of greenhouse gases." It is unlikely that, on average over each year, approximately 95% of that carbon dioxide will be captured, especially given probable outages (and related start-up and shut-down).	The carbon dioxide released from the combustion process will be captured and we expect the capture rate to be approximately 95%. This is in line with other applications applying CCS technologies to combustion processes associated with power generation. Deployment of BECCS at Drax Power Station will build on the current zero-rated performance of the biomass units to result in a substantial contribution of negative emissions towards the UK carbon budget and Net Zero targets, and will help to create a carbon negative electricity system.	AS-043
10.12	Regardless of whether that target is achieved, the scheme self-evidently cannot result in negative emissions of greenhouse gases unless (i) the captured carbon dioxide is permanently stored and (ii) the amount of carbon dioxide emitted is immediately matched by an equal quantity sequestered. The application refers to carbon capture and storage, whereas in fact the application seeks to do no more than capture carbon. The application imprudently assumes that the requisite downstream technology and facilities will be feasible, socially acceptable, affordable and – in perpetuity - without leakage. It also assumes that those who control that downstream infrastructure will let the applicant discharge the captured carbon into it at a price which the applicant can afford (with or without public subsidy).	The BECCS scheme will capture Carbon Dioxide from the flue gas which is generated as part of the combustion process. Part of the proposed development (Work Package 2) includes the interface with Transport and Storage element of the 'Cluster' which is the Humber Low Carbon Pipeline (HLCP). the Pipeline will then connect into the storage element of the Cluster, which is the Endurance Saline Aquifer. There will of course be commercial arrangements dealing with the transport and storage of the Carbon Dioxide capture through the BECCS process and this is no different from any emitter connecting into the HLCP network. BEIS has published a consultation on their "minded to" Business Model for Power-BECCS. This Business Model uses a combination of a Power Contract for Difference (CfD) and a Carbon CfD. The CfDs provide revenue support for the project, enabling financing to be obtained at competitive rates, but crucially enable the project to pay back to Government if market prices exceed the agreed strike prices. The Strike Prices for the Power and Carbon CfDs and the level of subsidy have not yet been agreed, however under the proposed Business Model the project will have access to revenues from the power market, the UK Emissions Trading Scheme and the Voluntary Carbon Markets.	AS-043
10.13	Concerning technology, world-wide, only one (subsidised, loss-making) unit of one power station currently captures post-combustion carbon dioxide. Reportedly, roughly half of that quantity subsequently discharges into the atmosphere. Other carbon capture projects in the power sector have been abandoned.	There are a number of Carbon Capture and Storage projects which have been operational for a number of years although the technologies and functions employed and the processes used will vary. However, the data confirms that technology is capable of delivering several millions of tonnes of Carbon Dioxide being captured and there are a number of reliable websites which provide up-to-date information on the development of Large Scale CCS facilities around the world.	AS-043

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		Capacity of operational large-scale carbon capture and storage facilities worldwide as of 2021 (in million metric tons per year) data derived from statista.com (05/01/23) 	

DELIVERY OF THE STORAGE PIPELINE

Table 11.1 – Delivery of The Storage Pipeline

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
11.1	This project depends entirely on the construction of a pipeline to carry compressed CO_2 to storage under the North Sea, but no details are given of this. Whilst a pipeline under the North Sea is being considered, this has not been included in the application so the whole venture is being proposed without a complete picture of what the necessary infrastructure will be. This fragmentation of the project into separate parts means that no real assessment of the impact of the project overall can be made. Since the purpose of this technology is net removal of carbon from the atmosphere through negative emissions, the credibility of the application cannot be evaluated by looking at the carbon capture installation alone. Whether it delivers negative emissions or adds to CO2 in the atmosphere will depend on each stage of the system performing as claimed. This piece-meal approach risks a scheme being accepted by stealth with each piece of the overall infrastructure being justified by the acceptance of the previous one. The application should be rejected until a complete scheme is on the table.	The Northern Endurance Partnership (a partnership composed of BP, National Grid, Eni, Equinor, Total and Shell) are currently going through Front End Engineering and Design ("FEED") studies and applying for the respective consents required to build a pipeline which will run onshore from the area of Drax Power Station Site to Easington (known as the Humber Low Carbon Pipelines), an offshore pipeline which will run from Easington to the storage facility and a CO_2 storage facility in the Southern North Sea (the "Endurance" Store). As these consents are being applied for elsewhere, they are not included in this planning application. The Applicant, as a partner in the Zero Carbon Humber cluster and East Coast Cluster is working closely with the Northern Endurance Partnership to align itself with and contribute to their FEED studies in order to ensure that our project is compatible with their pipeline and they will be ready to accept our CO_2 volumes for permanent storage when BECCS becomes operational. National Grid Ventures is responsible for the development of the Low Carbon Humber Pipeline project and a separate DCO is expected to be submitted to the Planning Inspectorate next year (2023). As the details of the Low Carbon Humber Pipeline (LCHP) project were not known at the time of submission, they were not included in the Applicant's cumulative assessments (APP-177). However, as the LCHP will follow BECCS in the consenting process, that application will be required to assess the cumulative impacts of the project and BECCS; which the Examination of that project could then consider. However, the Applicant recognises that National Grid Ventures has recently begun statutory consultation on the LCHP and will review the information provided to consider how the impacts of the projects may interact. It is also worth noting that Nationally Significant Infrastructure Projects (NSIPs) come forward regularly with interfaces with other projects and with the required connections being submitted later hence this is not an unusual scenario or situation. Examples include Hinkley Point and the Hinkley Point Connection projects and the Triton Knoll and Triton Knoll Electrical System projects.	RR-003; RR-015; RR-019; RR-021
11.2	The captured carbon dioxide should be regarded as a liability (of planetary significance given the climate emergency) until permanently stored. For that storage, the applicant will depend entirely on others (especially the fossil fuel industry, which has forfeited its social licence to operate) for downstream infrastructure which might not be feasible, affordable or assured. That assurance would necessarily have to be subject to an	The Carbon Dioxide captured by the BECCS project will be transported via the Humber Low Carbon Pipeline network to the Endurance Saline Aquifer for permanent storage. The Government has demonstrated its policy support for this approach and is working with industry to consider the appropriate commercial models to be applied.	AS-043

	effective, globally recognised, system of Monitoring, Reporting and Verification – but one has not yet even been proposed.	Please read the Relevant Representation from National Grid Carbon Limited (NGCL) reference 7.1 which provides additional information and context regarding their role within the cluster. It is noted that carbon storage has been recognised as a positive by IPCC, which has stated that *'for well-selected, well-designed and well-managed geological storage sites, CO2 could be trapped for millions of years, retaining over 99 per cent of the injected CO2 over 1000 years.'*	

GREENHOUSE GAS EMISSIONS AND THE USE OF BIOMASS

The Applicant has, in this table, responded to comments that have made in relation to the merits of biomass supply and power generation. Whilst the Applicant has done this given the strength of feeling expressed in the Relevant Representations, it is important to note from the outset that the Proposed Scheme does not seek consent for any aspect of biomass supply and power generation. Such matters are already in place at Drax Power Station and would be able to continue either with or without the Proposed Scheme. As such, the Applicant considers that arguments as to the pros and cons of biomass is not in and itself an important and relevant consideration to the acceptability of the Proposed Scheme – the benefits and impacts of biomass supply are not the benefit and impacts of the Proposed Scheme. Accordingly, the merits of biomass supply and power generation should not form part of the issues for examination given they are not being applied for and thus are outside the scope and remit of the Examination.

Table 12.1 – Greenhouse Gas Emissions and the Use of Biomass

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
12.1	The view that BECCS can achieve 'negative emissions' does not take account of the fact that logging, transporting and burning trees in power stations can be carbon neutral. A number of environmental groups and scientists consider that burning wood is as bad for the climate as fossil fuels.	The accounting principles that apply to the project are laid out in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, which require that biogenic carbon emissions are calculated through changes in land carbon stock in the Agriculture, Forestry and Other Land Use (AFOLU) sector, not at the point of final emission (e.g. combustion or respiration). Permanent capture of carbon from biomass (which has already assumed to be emitted in the land sector), therefore delivers negative emissions: *"If the [CCS] plant is supplied with biofuels, the corresponding CO2 emissions will be zero (these are already included in national totals due to their treatment in the AFOLU sector), so the subtraction of the amount of gas transferred to long-term storage may give negative emissions. This is correct since if the biomass carbon is permanently stored, it is being removed from the atmosphere."* (IPCC, 2006 Guidelines for National Greenhouse Gas Inventories, Chapter 2 Stationary Combustion, Section 2.3.4, Carbon Dioxide Capture, page 2.37). This position is reflected within Chapter 1, paragraph 3 of the Biomass Policy Statement issued by the Department for Business Energy and Industrial Strategy in November 2021 which states that: "*Bioenergy with Carbon Capture and Storage (BECCS) can provide net negative emissions because the carbon captured in plant growth is captured, stored and removed from the atmosphere, therefore there is a net decrease in atmospheric carbon.*" The need for BECCS and the benefits of the Proposed Scheme are set out in the Needs and Benefits Statement (APP-033). A critical condition for BECCS to deliver negative emissions is therefore that biomass sourcing must have a neutral or positive impact on carbon stocks in the AFOLU sector. The Applicant supports this condition, which has been adopted within their responsible sourcing policy (see Appendix C). The Applicant recognises that there are other emissions that persist across the wider biomass supply chain due to processing and transport, as is true of all supply chains. The Applicant reports on its full biomass supply chain emissions to Ofgem under legislative requirements (including the Renewable Obligation ("RO") and Contracts for Difference) for its current operations. Drax Power Station's estimated operational GHG Emissions from the Proposed Scheme are set out at Table 15.11 of Chapter 15 of the Environmental Statement (APP-051) which shows that supply chain emissions are estimated to equate to less than 15% of the carbon dioxide captured and removed	RR-004; RR-006; RR-007; RR-008; RR-009; RR-010; RR-011; RR-012; RR-013; RR-019; RR-027; RR-030; RR-031; RR-032; RR-034; RR-035; RR-037; RR-038; RR-045; RR-050; RR-053; RR-054; RR-058; RR-059; RR-062; RR-063; RR-070; RR-071; RR-072; RR-073; RR-074; RR-075; RR-077; RR-078; RR-079; RR-081; RR-082; RR-084; RR-085; RR-086; RR-087; RR-088; RR-093; RR-094; RR-095; RR-096; RR-098; RR-099; RR-100; RR-101; RR-102; RR-103; RR-104; RR-106; RR-107; RR-108; RR-110; RR-111; RR-112; RR-113; RR-114; RR-117; RR-118; RR-120; RR-121; RR-122; RR-124; RR-125; RR-127; RR-129; RR-130; RR-131; RR-132; RR-133; RR-134; RR-135; RR-138; RR-139; RR-140; RR-142; RR-143; RR-144; RR-145; RR-147; RR-148; RR-150; RR-153; RR-157; RR-159; RR-160; RR-164; RR-165; RR-166; RR-167; RR-168; RR-170; RR-171; RR-172; RR-174; RR-175; RR-178; RR-179;

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		by the Proposed Scheme. Supply chain emissions are expected to reduce over time as we continue to reduce emissions in our supply chains. The Applicant also provides extensive information to voluntary certification schemes and publishes a comprehensive overview of this data in its Annual Reports (including audited data on the lifecycle emissions of biomass). The Applicant makes all data and information on its emissions and catchment areas, including evidence of forest growth, growing stock, and sequestration rates (forest productivity), available for public consumption. Details of supply chain emissions associated with the project are set out in Appendix 15.2 (Proposed Scheme GHG Emissions Calculation) of the ES (APP-169).	RR-180; RR-182; RR-183; RR 184; RR-185; RR-186; RR-187; RR-188; RR-190; RR-191; RR-192; RR-195; RR-196; RR-197; RR-199; RR-200; RR-201; RR-202; RR-203; RR-204; RR-206; RR-207; RR-210; RR-211; RR-213; RR-215; RR-218; RR-219; RR-220; RR-221; RR-223; RR-224; RR-225; RR-226; RR-227; RR-228; RR-230; RR-232; RR-233; RR-234; RR-235; RR-237; RR-238; RR-239; RR-241; RR-242; RR-244; RR-245; RR-247; RR-251; RR-252; RR-253; RR-254; RR-255; RR-256; RR-257; RR-258; RR-259; RR-260; RR-261; RR-262; RR-263; RR-264; RR-266; RR-267; RR-268; RR-271; RR-273; RR-274; RR-275.
12.2	The trees Drax Power Station burns don't come from the UK, they are imported from places like US, Canada, Estonia and Latvia where they are logging in highly biodiverse forests. Drax Power Station cannot be trusted to not cause irreversible loss of old growth forest, thus making the climate and ecological crisis worse.	It is noted that the biomass generation units that are the subject of the Proposed Scheme are already fully consented and in current operation. The Proposed Scheme is seeking consent only to retrofit carbon capture units to those units. As such and as set out above, this comment is not relevant to the merits of the Proposed Scheme. Notwithstanding this, whilst the Applicant agrees that much of the sustainable biomass associated with the biomass units to which the Proposed Scheme will be fitted to will be imported from outside the UK, in sourcing the biomass fuels, the Applicant adheres to all required legislation, regulations and standards which govern the energy sector, the Applicant's businesses and its supply chains. It ensures the ongoing sustainability of its feedstock in accordance with required legislation. Companies which use biomass in the UK are required to comply with strict sustainability requirements. These requirements are unique in that they are stricter and more onerous than what is required for other energy generation technologies or other sectors of the bioeconomy (e.g. solid wood products). The vast majority of biomass sourced for the existing generation units also complies with a number of voluntary certification schemes, such as the Sustainable Biomass Program (SBP), FSC and SFI and third parties provide oversight to ensure the material we are using meets the required	RR-007; RR-013; RR-021; RR-030; RR-036; RR-042; RR-059; RR-089

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		sustainability standards. All biomass sourced without certification undergoes additional due diligence and third party auditing. We publish a comprehensive overview of this data in our Annual Reports. The Applicant makes all data and information on its emissions and catchment areas, including evidence of forest growth, growing stock, and sequestration rates (forest productivity), available for public consumption.	
12.3	I am not aware that that the carbon cost of forestry, milling and transport of woodchip is included in assessing the overall benefit of Drax. I am not aware that Drax burns only waste wood. Waste wood could better be composted than burnt if we are to prevent adding CO_2 to the atmosphere.	It is noted that the biomass generation units that are the subject of the Proposed Scheme are already fully consented and in current operation. The Proposed Scheme is seeking consent only to retrofit carbon capture units to those units. As such and as set out above, this comment is not relevant to the merits of the Proposed Scheme. The Proposed Scheme will generate electricity from the combustion of wood pellets rather than wood chips. Companies which use biomass are required to comply with strict sustainability standards. They are also required to measure and report on supply chain emissions. These requirements are unique in that they are stricter and more onerous than what is required for other energy generation technologies. As a result, the Applicant reports on its full supply chain emissions to Ofgem under current legislative requirements (including the Renewables Obligation and CfD). The Applicant's estimated operational GHG Emissions from the Proposed Scheme are set out at Table 15.11 of Chapter 15 (Greenhouse Gases) of the ES (APP-051) which shows that supply chain emissions are estimated to equate to less than 15% of the carbon dioxide captured and removed by the Proposed Scheme. Supply chain emissions are expected to reduce over time as the Applicant continues to reduce emissions in our supply chains.	RR-066
12.4	Drax Power Station's supply chain in Estonia may be in breach of UK sustainability standards, and that the Drax Power Station's supply chain in British Columbia threatens critical Caribou habitats and at least partly occupy indigenous lands that neither the Canadian nor British Columbian states are legally entitled to licence.	It is noted that the biomass generation units that are the subject of the Proposed Scheme are already fully consented and in current operation. The Proposed Scheme is seeking consent only to retrofit carbon capture units to those units. As such and as set out above, this comment is not relevant to the merits of the Proposed Scheme. Notwithstanding this, whilst the applicant agrees that much of the sustainable biomass associated with the Proposed Scheme will be imported from outside the UK, Drax Power Station adheres to all required legislation, regulations and standards which govern the energy sector, the Applicant's businesses and its supply chains. It ensures the ongoing sustainability of its feedstock in accordance with the required legislation. Companies which use biomass are required to comply with strict sustainability regulations. These requirements are unique in that they are stricter and more onerous than what is required for other energy generation technologies or other sectors of the bioeconomy (e.g. solid wood products).	RR-008; RR-019

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		The vast majority of biomass sourced for the existing generation units also complies with a number of voluntary certification schemes, such as the Sustainable Biomass Program (SBP), FSC and SFI and third parties provide oversight to ensure the material meets the required sustainability regulations. All biomass sourced without certification undergoes additional due diligence and third party auditing. We publish a comprehensive overview of this data in our Annual Reports. The Applicant makes all data and information on its emissions and catchment areas, including evidence of forest growth, growing stock, and sequestration rates (forest productivity), available for public consumption.	
12.5	The large-scale biomass burning at Drax Power Station requires the significant harvesting of trees globally, therefore, massively reduces opportunities to remove atmospheric CO2 as opposed to letting forests grow and mature. Forests, grass, peat bogs, and wetlands are scientifically proven ways of sequestering carbon and thus their retention should be critical to the global response to the climate emergency	Sustainable forest management of working forests is widely recognised as a vital tool for climate change mitigation and is complementary to ecosystem protection and restoration. Notably, it serves as a solution for mitigating natural disturbances such as fire, pest and disease. Sustainably sourced wood products, including wood pellets, are critical for 1) improving forest management practices, 2) protecting against land conversion to lower carbon land types (e.g. agriculture) and 3) displacing higher carbon resources in society (e.g. fossil fuels, concrete, steel etc.).	RR-007; RR-061; RR-069; RR-083; RR-089; RR-091; RR-136; RR-137; RR-212
12.6	In relation to the use of Biomass, the Intergovernmental Panel on Climate Change also make clear on their website in FAQs number 2-10 that "*The approach of not including these emissions in the Energy Sector total should not be interpreted as a conclusion about the sustainability, or carbon neutrality of bioenergy*."	The Applicant acknowledges the rules laid out in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and recognises that while such rules are the most scientifically appropriate way for accounting of emissions, they provide no guarantee of bioenergy sustainability, particularly for international supply chains. The Applicant equally acknowledges that for BECCS to deliver negative emissions, it must be complemented by robust sustainability rules which ensure the protection of carbon stocks on land. Drax Power Station's responsible sourcing policy ensures we only use waste/residue or fibre, or material that helps to maintain or improve the growing stock, growth rate and productivity of forests. See our response to Paragraph 12.1 above explaining how applying BECCS technology to biomass generation will allow the project to actually deliver *negative* emissions.	RR-008
12.7	The Proposed Project will harm the health of communities in the southeast US that live close to the wood pellet mills.	It is firstly important to note that the Proposed Scheme itself does not influence the impacts of biomass operation in the US or in the UK, which exist with or without the Proposed Scheme. Notwithstanding this, in undertaking its biomass operations, the safety of people and residents of the communities in which the Applicant operates remains its top priority. The biomass sector is highly regulated. We work proactively with national and state regulators and invest in our pellet plants, with a view to complying with their environmental permits and regulatory requirements (including in relation to air quality and noise matters). Furthermore, the international Biomass certification scheme, SBP (Sustainable Biomass Programme) has strict socioeconomic requirements. In addition, the Glasgow Declaration on	RR-008; RR-015; RR-044; RR-047; RR-231

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		Sustainable Bioenergy (UNFCCC, 2021) commits signatories to supporting and protecting communities through five principles of: (1) Protecting and investing in communities – e.g. through employment and training; (2) Supporting land manager in delivering sustainability; (3) Ensuring safe operations – working alongside other sustainable land use sectors to improve the safe delivery of land management operations; (4) Demand employment best practice through supply chains; and (5) Respecting the rights of indigenous peoples. The Applicant take these responsibilities seriously.	
12.8	Global demand for wood pellets is degrading forest ecosystems in the Southeast United States, which is where the UK derives the vast majority of its wood pellets. Media and watchdog investigations over the past decade have exposed the damaging logging practices used by companies – including the world's largest pellet producer Enviva – to supply the UK biomass industry, especially Drax Power Station. By following logging trucks to the forest and back to an Enviva pellet plant, these investigations have found, among other things, that: • A high proportion of Enviva's pellets in Virginia and North Carolina come from standing hardwood trees • Enviva wood pellets are often sourced from clearcut forests in the US South. These findings contradict industry claims that it only uses sawmill waste and the "wastes and residues" of logging and thinnings from softwood plantations. New research by Clark University using satellite imagery concludes that ecologically valuable hardwood forests in Virginia and North Carolina have been harvested at a higher rate since Enviva's pellet mills started operating and consuming primarily hardwoods. Moreover, in the time period after Enviva's three mills started operating (2011-2016), the area's hardwood forests suffered a net loss, likely contributing to overall declines in carbon stocks in the area's hardwood forests.	Whilst the Applicant continues to consider that these issues are not relevant to consideration of the Proposed Scheme, it notes that global demand for wood pellets is not degrading forest ecosystems in the Southeastern US. Markets for low-grade trees are supportive of sustainable forest management. Landowners, foresters, and wildlife biologists appreciate markets for low-grade trees because removal of these trees is often necessary to enhance the growth, resilience, and biodiversity of the forest. Removal of low-grade trees during thinning operations not only improves the growth of crop trees (i.e. sawtimber trees), but it can also reduce the risk of wildfire and pest infestation while allowing a more diverse understory to develop. Markets for low-grade forest materials can also be assistive to the successful regeneration of both pine and hardwood forests. Outlets for trees which are unsuitable for solid-wood production can help assure that poor quality trees are not left to shade-out regeneration, negatively impact forest genetics, or reduce species diversity. Clearcutting is an accepted forest regeneration technique for both pine and hardwood forests in the southern US. As described above, markets for low-grade hardwoods and pines can ensure that these "regeneration harvests" are conducted in a manner that encourages, rather than deters, healthy forest regrowth. The biomass industry utilizes the lowest value by-products from active sustainable forest management. This includes low-quality trees unsuitable for sawmilling and the residues from solid-wood manufacture. The term "waste" is circumstantial and market dependent therefore not an extremely useful or relevant descriptor. The biomass industry plays a valuable and supportive role in the health and management of southern US forests.	RR-008; RR-011; RR-015; RR-044; RR-047; RR-069; RR-229; RR-231; RR-265

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
12.9	Harvesting wood and burning for biomass is not carbon neutral but creates a significant carbon debt because of the time delay for trees to regrow.	Whilst confirming again that it is considered that this issue is not relevant to the Proposed Scheme, the Applicant acknowledges that it is important that biomass sourcing must demonstrate to have a neutral or positive impact on carbon stocks in the forest region from which the biomass is sourced. Drax Power Station's responsible sourcing policy ensures that it only uses sources of biomass that do not provide a significant risk of causing carbon debt. The Applicant supports landscape-scale accounting, as is widely supported by many scientists (Cowie, 2021). Applying a science-based systems perspective to dispel misconceptions about climate effects of forest bioenergy. GCB Bioenergy. Wiley Online Library) to avoid ambiguities around the timing of emissions and removals for bioenergy feedstock. See also our response in row 12.1 above explaining how applying BECCS technology to biomass generation will allow the project to actually deliver *negative* emissions.	RR-003; RR-013; RR-015; RR-018; RR-021; RR-061; RR-068; RR-209
12.10	The proposed development may prove to be unsustainable for a variety of possible reasons: • the unknown size of the 'energy penalty' required to run the new CCS plant; • the possibility that this 'energy penalty' will be compensated for in the national grid by energy from fossil fuel power stations, thus increasing the UK's CO2 emissions; • the unaccounted-for energy required to build the CCS plant and to build and run the pipeline and storage facility upon which the Applicant's proposed scheme depends; • the oddities in carbon accounting, for example, the failure to take account of when emissions occur adding a quantity of CO2 to the atmosphere now then gradually removing this same quantity through tree growth over the next several decades is not 'carbon neutral'; rather, it will seriously add to global warming. The timing as well as the quantity of emissions matters; • the possible official reclassification of biofuels in terms of their impact on the environment; • the neglect of the environment cost.	Bullets 1 and 2 – Please see our response in row 10.10. The Applicant has undertaken extensive work to be confident as to the amount of energy required to operate the carbon capture units and notes that a BECCS unit produces two valuable commodities (power and negative emissions) in comparison to the current unabated units which produce only power. The BREF Guidance note on post combustion capture plant requires operators to carefully consider the integration of the PCC plant and the overall thermal efficiency of the power plant. Bullet 3 – The pipeline and storage facility is not being developed by the Applicant and does not form part of the Proposed Scheme. The constituent parts will be consented and permitted separately by their developer(s) and the Government will consider from both a financial and planning perspective, the carbon emissions associated with the construction and operation of those facilities. Bullet 4 - It is important that biomass sourcing must demonstrate to have a neutral or positive impact on carbon stocks in the forest region from which the biomass is sourced. Drax Power Station's responsible sourcing policy ensures we only uses sources of biomass that do not provide a significant risk of causing carbon debt. Drax Power Station supports landscape-scale accounting, as is widely supported by many scientists (Cowie, 2021. Applying a science-based systems perspective to dispel misconceptions about climate effects of forest bioenergy. GCB Bioenergy. Wiley Online Library) to avoid ambiguities around the timing of emissions and removals for bioenergy feedstock. It is critical therefore that biomass sourcing must demonstrate to have a neutral or positive impact on carbon stocks in the forest region from which the biomass is sourced. The Applicant firmly supports this condition, which has already been adopted within UK sustainability requirements and the Applicant's responsible sourcing policy (see Appendix C). Bullets 5 and 6 – The representation is unclear as to their specific concerns but the Proposed Scheme will comply with all sustainability and environmental criteria applicable to it – see our responses in rows 12.1 and 12.2 in this regard.	RR-011; RR-236
12.11	The cost-efficiency and carbon efficiency of burning wood needs to compare with that of wind, solar, tidal, hydro-storage and geothermal projects for a true	BECCS is the only industrial scale technology that can be developed at scale during the 2020s to enable the UK Government to meet its stated target of 5mt of carbon dioxide removals by 2030. BECCS is the only viable electricity technology that can deliver reliable, flexible, non-intermittent renewable electricity to the GB electricity system at scale whilst also delivering negative emissions	RR-033; RR-067

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	assessment of whether Drax Power Station is sustainable	as a secondary product. These factors will help to balance a system comprising of an increasing proportion of intermittent renewable technologies and contribute to security of supply. From a cost perspective, research undertaken by power market experts Baringa that Drax Power Station commissioned in 2021 estimated that it would cost £15bn more for the UK to achieve its 2050 Net Zero targets if BECCS was not deployed and that the energy system would incur £4.5bn of additional costs to achieve the UK Government's fifth carbon budget in 2028-2032 without the Proposed Scheme – making decarbonisation more difficult and significantly more expensive. See also the Applicant's responses in section 10 of this note for further consideration of these points.	

Table 13.1 – Job Creation and Economic Benefits

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
13.1	In the 'Needs and Benefits Statement' it suggests that at its peak, the Drax BECCS plants could support a total of 4,940 direct jobs (i.e. manufacture and installation), 2,120 indirect jobs (i.e. in the supply chain), and 3,240 induced jobs". However, in most of the construction phase the numbers of jobs are significantly lower – in the operation and maintenance phase the figures are 375 direct, 960 indirect and 1,800 induced. The number of jobs rapidly drops from ~ 10,000 to ~3,000 creating a jobs 'time bomb' for the area.	The BECCS at Drax Power Station project will support the creation and maintenance of direct, indirect and induced green collar jobs in the construction phase and during long term operation, which are part of a new low carbon industry throughout the Humber and East Coast Cluster, supporting the Government's Growth Plan by delivering high quality jobs in the north. The number of jobs required will vary throughout the project lifetime, depending on the activity required. Much of the training, skills and qualifications required for jobs on the BECCS project will be directly relevant to other CCUS projects in the East Coast Cluster. The figures stated here, *"…a total of 4,940 direct jobs (i.e. manufacture and installation), 2,120 indirect jobs (i.e. in the supply chain), and 3,240 induced jobs"* are not reported in the Needs and Benefits Statement (APP-033), or Population, Health, and Socio-economics chapter (APP-052). Please refer to the Needs and Benefits Statement (APP-033) (Section 5.2.6 – 5.2.9 'Supporting local jobs') and the Population, Health, and Socio-economic chapter (APP-052) (Section 16.9.3 – 16.9.9 'Generation of Direct, Indirect, and Induced Employment Opportunities'), which both report that the Drax BECCS plant could support a total of 4,000 direct, 1,600 indirect, and 2,500 induced jobs. The figures stated in row 13.1 (*"The number of jobs rapidly drops from ~ 10,000 to ~3,000"*) are not reported in the Needs and Benefits Statement (APP-033), or the Population, Health, and Socio-economics Chapter of the ES (APP-052).	RR-004; RR-008; RR-009; RR-010; RR-011; RR-012; RR-013; RR-019; RR-027; RR-031; RR-034; RR-035; RR-037; RR-038; RR-045; RR-050; RR-053; RR-054; RR-058; RR-062; RR-063; RR-070; RR-071; RR-072; RR-074; RR-075; RR-077; RR-078; RR-079; RR-081; RR-082; RR-084; RR-085; RR-086; RR-087; RR-088; RR-093; RR-094; RR-095; RR-096; RR-098; RR-099; RR-100; RR-101; RR-102; RR-103; RR-104; RR-106; RR-107; RR-108; RR-110; RR-111; RR-113; RR-114; RR-117; RR-118; RR-120; RR-121; RR-122; RR-124; RR-125; RR-127; RR-129; RR-130; RR-131; RR-132; RR-133; RR-134; RR-135; RR-138; RR-139; RR-142; RR-143; RR-144; RR-145; RR-147; RR-148; RR-150; RR-153; RR-157; RR-159; RR-160; RR-164; RR-165; RR-166; RR-167; RR-168; RR-170; RR-171; RR-172; RR-174; RR-175; RR-178; RR-179; RR-180; RR-182; RR-183; RR-184; RR-185; RR-186; RR-187; RR-188; RR-190; RR-191; RR-192; RR-195; RR-196; RR-197; RR-199; RR-200; RR-201; RR-202; RR-203; RR-204; RR-206; RR-207; RR-210;

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
			RR-211; RR-213; RR-215; RR-218; RR-219; RR-220; RR-221; RR-223; RR-224; RR-225; RR-226; RR-227; RR-228; RR-230; RR-232; RR-233; RR-234; RR-235; RR-237; RR-238; RR-239; RR-241; RR-242; RR-244; RR-245; RR-247; RR-251; RR-252; RR-253; RR-254; RR-255; RR-256; RR-257; RR-258; RR-259; RR-260; RR-261; RR-262; RR-263; RR-264; RR-266; RR-267; RR-268; RR-271; RR-273; RR-274; RR-275.
13.2	The jobs and economic prospects projected by the Applicant (Vivid Economics report, appended to Document 5.3) are inflated and not supported by evidence, and there are no guarantees of hiring local people or suppliers. The projected public subsidy of £31.7bn over 25 years.	The jobs and economic prospects outlined in the Vivid Economics report are calculated using the deployment assumptions provided in the appendix to that document. Data sources for technology types, deployment scenario and cost estimate (including capex, fixed operations and maintenance, and cost decline rates) are also provided. Indirect and induced benefits are estimated using the Vivid Investment Impact Model which accounts for the interaction between 127 sectors and estimates the impact on GDP and on employment using data from the ONS. The jobs and economic prospects outlined in the Vivid Economics report are calculated using the deployment assumptions provided in the appendix to that document. Data sources for technology types, deployment scenario and cost estimate (including capex, fixed operations and maintenance, and cost decline rates) are also provided. Indirect and induced benefits are estimated using the Vivid Investment Impact Model which accounts for the interaction between 127 sectors and estimates the impact on GDP and on employment using data from the ONS. The Applicant is committed to the UK supply chain and has an ambition to source 80% of construction materials and services for the BECCS project from the UK. (see Appendix D)	RR-004; RR-005; RR-008; RR-015; RR-019; RR-021
13.3	We are concerned over potential health hazards for workers and local communities. Drax Power Limited currently facing prosecution, accused of exposing employees to wood dust at its biomass plant, and of failing to make a	Drax Power Limited received notice of legal action from the Health and Safety Executive in relation to wood dust from operations at Drax	RR-004

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	suitable risk assessment before allowing employees to work with potentially hazardous substances. Will this be the case again?	Power Station prior to 2017. We have pleaded not guilty. As this legal case is ongoing, we cannot provide any further information at this time. Since the commencement of large-scale biomass operations in 2013, the Company has been committed to continuous improvements of its facilities. The health, safety and wellbeing of colleagues has been and continues to be a priority for Drax Power Limited. An integral part of the design and engineering of the project will include a series of HAZIDS and HAZOPS conducted with the design and construction teams. These meetings and the output of them will ensure that hazards are identified and addressed as part of the integral design and operation of the plant.	

FINANCIAL VIABILITY AND USE OF SUBSIDIES

Table 14.1 – Financial Viability and Use of Subsidies

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
14.1	The promises both for emissions reductions and jobs should be consider in relation to public value for money. Climate and energy think-tank Ember estimate that BECCS at Drax Power Station will require £31.7bn of public subsidy over 25 years. We argue that this represents poor value for money when this subsidy could be better spent reducing overall energy demand (for example through home insulation) and rolling out well-established renewable technology such as cheap wind and solar energy.	The Applicant considers that the 'value for money' of the Proposed Scheme is not a planning consideration for the determination of the Proposed Scheme. The Government is running a competitive bidding process for Carbon Capture projects; within which it will make decisions on which projects constitute value for money. This is a separate matter to the planning decision making under the Planning Act 2008, which must weigh up the benefits and adverse impacts of a scheme. In any event, it is noted that BEIS has published a consultation on their "minded to" Business Model for Power-BECCS. This Business Model uses a combination of a Power Contract for Difference (CfD) and a Carbon CfD. The CfDs provide revenue support for the project, enabling financing to be obtained at competitive rates, but crucially enable the project to pay back to Government if market prices exceed the agreed strike prices. The Strike Prices for the Power and Carbon CfDs and the level of subsidy have not yet been agreed, however under the proposed Business Model the project will have access to revenues from the power market, the UK Emissions Trading Scheme and the Voluntary Carbon Markets. BEIS Business Model also proposes a maximum term for the CfD agreement to be 15 years. The shorter contract term and the ability to access power and carbon market revenues mean that the public subsidy for BECCS at Drax Power Station will be very significantly lower than the figures quoted by Ember. It is also noted that wind and solar projects also require significant investment upfront by developers before a decision is made by Government as to whether to award a Contract for Difference. As such, all types of energy project require a mix of private sector and public sector investment. In addition BECCS not only provides renewable generating capacity but also removed carbon from the atmosphere; please see response in row 14.2.	RR-004; RR-005; RR-015; RR-021; RR-029; RR-036;
14.2	The Scheme will come at great cost to the public, with the Government proposing to use a Contracts for Difference mechanism to pay for BECCS. The projected strike price for new BECCS is £179/MWh in 2027 (while new offshore wind is already down at £68/MWh today). Such a cost to the public should at least deliver the purported benefits.	BECCS at Drax Power Station will provide baseload renewable, low carbon power plus negative emissions. We agree that significantly more renewable power is required to decarbonise the GB electricity system, and offshore wind has an important role to play in meeting that objective. However, wind and solar generation is intermittent, and can only provide energy when the wind blows or the sun shines respectively. Biomass generation can operate 24 hours a day	RR-044; RR-047

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		7 days a week and is not weather dependant, therefore making an important contribution to GB's energy security. The negative emissions that BECCS at Drax Power Station will provide will offset the continuing emissions in hard to abate sectors, enabling the UK to meet its carbon budgets and net zero cost effectively. Analysis by Baringa (Baringa's Climate Change Scenario Model) demonstrated that Net Zero can be achieved at £26bn lower cost if BECCS at Drax Power Station is successfully developed. The Applicant is confident that the benefits of the Proposed Scheme, as discussed in the Needs and Benefits Statement (APP-033) will be delivered.	
14.3	Further projections in the Vivid Economics report refer to the anticipated development of the wider Humber and Teesside industrial clusters and subsequently the UK as a whole. Not only is this vision purely assumptive, but the report does nothing to substantiate the key assertion that BECCS at Drax will be vital to this, beyond the fact that the entire Humber cluster is dependent upon the concurrent construction of a common CO2 pipeline and undersea storage facilities.	Drax Power Station is integral to the GB electricity system, providing reliable and dispatchable renewable energy to power the equivalent of 5 million homes every year, supporting domestic energy security. As an anchor project in the East Coast Cluster, the project supports decarbonisation of the UK's largest industrial cluster – the Humber - by providing negative emissions and, through the volume of CO_2 captured, provides the economy of scale necessary to support the deployment of a large-scale transport and storage network, enabling intermittent and lower volume CO_2 emitters to connect to the network cost effectively. BECCS can therefore play an important role in supporting the development of industrial clusters. By generating a large, stable source of biogenic CO_2, BECCS projects can help de-risk CO_2 transport and storage networks by creating economies of scale and reliable volumes of CO2 for the network operators. BECCS projects can play a critical role in supporting both CCS and hydrogen clusters around the UK. In the case of the Humber industrial cluster, the scale of the Drax BECCS plant would facilitate a significantly larger CCS transmission and distribution network in the region. In conjunction with other projects in the region that can serve as 'anchor' loads, they can help de-risk the development of these networks. The development of the CCS infrastructure can in turn facilitate the use of hydrogen in industry, for those plants where electrification is not possible and fuel-switching to hydrogen is the preferred and most economically viable option. In order to meet the UK's net zero target, BECCS will play a crucial role. BECCS is crucial to the provision of firm low-carbon power and negative emissions, overcoming the site and emissions limitations of other low carbon power technologies such as renewables, hydro and unabated gas	RR-008;

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		and also ensuring that the CCC's forecast of 90 $MtCO_2$-e per annum of negative emissions requirements can be met by 2050. By combining the elements of BECCS, CCUS and Hydrogen, the Humber industrial cluster will help accelerate the UK-wide buildout of the CCUS clusters needed to hit net zero. The Applicant is an active and ongoing participant in its local and regional communities. The Applicant runs outreach activities to engage the next generation in STEM subjects from primary schools to higher education, reaching over 10,000 students through its "Drax in the Classroom" learning resources which comprises interactive webinars, university webinars and free onsite tours. The Applicant also offers work experience and Year in Industry placements and runs an apprenticeship scheme which currently has 52 participants. Drax Power Station collaborates with higher educational institutions such as Selby College, with whom the Applicant has developed a short course on BECCS, and also funds PhD studentships on topics such as grid stability and bioenergy feedstocks. The Applicant engages with the business community in Yorkshire through trade unions, business groups such as the Confederation of British Industry (CBI), the Chambers of Commerce, Local Enterprise Partnerships, and local businesses. Drax also support regional decarbonisation events. With the above in mind, BECCS at Drax Power Station provides a project, at scale which will allow the Humber Industrial Cluster to decarbonise and to support and develop the necessary economic drivers to allow this and other projects to support the Government's drive toward Net-Zero.	
14.4	I cannot find any information about the likely cost to Drax Power Station of using the proposed pipeline and storage facility, should it be developed. The costs might render the Project economically unviable.	The costs of access and use of the CO_2 transport and storage (T&S) network have not yet been confirmed by BEIS / NEP. However, the Applicant is using an estimated cost (£/tCO_2) within its economic modelling. However, whatever the payment mechanism and structure between Drax Power Station Site and the pipeline and storage operator, this is an issue for the Applicant's consideration in determining whether or not to proceed (and the Government in considering its business submission), rather than a planning matter.	RR-013

SECURITY OF SUPPLY

Table 15.1 – Security of Supply

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
15.1	The proposed development relies on the continued supply of fuel from abroad, hindering the UK's drive to be more self-sufficient in energy. This is contrary to the government's commitment in October 2021 to decarbonise the UK's electricity system by 'building a secure, home-grown energy sector that reduces reliance on fossil fuels and exposure to volatile global wholesale energy prices.'	It is noted that the Proposed Scheme does not itself 'rely' on fuel from abroad as the Proposed Scheme does not seek to consent biomass operation – it seeks to consent the application of CCS to that operation. In any event, the Applicant sources biomass from trusted, democratic countries with strict forestry regulations and which the UK has strong relationships with. In addition, biomass pellets are typically purchased on long-term contracts with fixed prices. In any event, The Applicant is working with the NFU to explore options for UK sourcing of biomass.	RR-018; RR-030
15.2	The volume of wood pellets consumed by Drax power plants 1 and 2 each year exceeds the total supply of all wood from UK sources. The continued operation of Drax Power Station will therefore cement the UK's dependency on foreign supply chains for its energy, which is unsustainable.	Biomass can play a critical role in protecting and enhancing our environment. Not only does biomass displace fossil fuels directly in the production of electricity, but it also supports markets for wooden products used in construction that replace the use of other carbon intensive materials like cement. The Applicant only sources biomass from forests harvested for timber, and we only take material that the sawmills don't want, as well as their sawdust. The forests that the Applicant currently sources biomass from in the US and Canada are growing or stable – in the case of the US South the forests have doubled in growth since the 1950s. These are countries which are longstanding allies and trading partners of the UK.	RR-013

Table 16.1 – Air Quality and Human Health

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
16.1	Very concerned about the potential harm to human health from the amine chemicals which Drax Power Station is planning to use to separate the CO2 from the other flue gases. These amines can form other compounds when they are emitted, including nitrosamines and nitramines which are possible carcinogens. Yorkshire and Humberside already have high levels of air pollution and there is a lack of research into the impacts of these chemicals on public health. These impacts on air quality would not be present if the Scheme were a carbon capture facility. We have major concerns over the Environmental Permitting process and we enquire about the relationship (if any) between planning permission and operating licensing including environmental permitting. We consider that there are knowledge gaps and problems with measuring, monitoring and analysing and hence assessing the exposures and risks from amine degradation products to be used in the proposal. There are also problems with non-disclosure of information and lack of open source information on what substances are being used in various products. If there cannot be full disclosure and transparency, then we consider that it is simply not possible to demonstrate that adequate risk assessments of processes and materials have been carried out.	The assessment reported in the ES Chapter 6 (Air Quality) (APP-042) has fully accounted for the emissions of amines and the formation of nitrosamines and nitramines. Moreover, the assessment, as presented in the ES and subsequent additional information (AS-10), has been undertaken on a highly conservative basis, as outlined below. Extensive research is available on the impacts of amines, nitrosamines and nitramines on health, and this has been used by the Environment Agency to derive Environmental Assessment Levels (EALs) for MEA (an amine) and NDMA (a key nitrosamine)[1]. In addition, the evidence base was reviewed by the CCS supplier (Mitsubishi Heavy Industries, MHI) for the process specific compounds proposed for use at Drax Power Station and it was concluded that whilst the EAL for NDMA was appropriately protective for the nitrosamines and nitramines, a more stringent EAL should be applied to the direct amine emissions (AS-19). As outlined below, the EALs were applied on a precautionary basis and the conclusion of the assessment was that no significant impacts on human health will arise as a result of the proposed development. The Applicant will continue to work with the Environment Agency as part of the permitting process to ensure that the appropriate emission limits and associated EALs are applied to the proposed development. Nitrosamines, and NDMA in particular, are known carcinogens in animals and probable carcinogens in humans. Health based guidance values for long term exposures vary from 0.2ng/m^3 (Environment Agency) to 0.7ng/m^3 (US EPA) based on an acceptable excess lifetime cancer risks of less than 1 in 100,000. For carcinogens, since there is no 'zero risk' level, the approach taken is to reduce the risk to as low as reasonably practicable. Emissions of amines, the primary source of nitrosamines in ambient air, have been minimised by process controls within the CCS plant and emissions will be regulated by Environment Agency under the permitting regime. Further to these emission control measures, the maximum modelled combined concentration of nitrosamines and nitramines results in an annual mean impact of 0.019ng/m^3. Assuming all nitrosamines and nitramines have the same carcinogenicity as NDMA, the excess lifetime cancer risk resulting from the proposed development is less than 1 in 1,000,000 and negligible. Finally, it is worthwhile reinforcing that the assessment is based on worst case, conservative, assumptions. In particular, the BECCS units are assumed to operate at full load continuously, with emissions at their permitted levels at all times and impacts assessed for the worst year of 5 years tested. Furthermore, the risk relates to the combined impacts from nitrosamines and nitramines whereas it is widely accepted that nitramines, which form the majority of the total nitrosamines + nitramines, have lower toxicity than nitrosamines (Gjernes, 2013. Health and environmental impact of amine based post combustion CO_2 capture. Energy Procedia Volume 37, 735-742). Actual risks will therefore be considerably lower than 1 in 1,000,000.	RR-006; RR-008; RR-009; RR-010; RR-011; RR-012; RR-013; RR-015; RR-017; RR-019; RR-020; RR-027; RR-031; RR-034; RR-035 RR-036; RR-037; RR-038; RR-041; RR-045; RR-050; RR-053; RR-054; RR-057; RR-058; RR-060; RR-062; RR-063; RR-065; RR-070; RR-071; RR-072; RR-074; RR-075; RR-077; RR-078; RR-079; RR-080; RR-081; RR-082; RR-084; RR-085; RR-086; RR-087; RR-088; RR-092; RR-093; RR-094; RR-095; RR-096; RR-098; RR-099; RR-100; RR-101; RR-102; RR-103; RR-104; RR-106; RR-107; RR-108; RR-110; RR-111; RR-113; RR-114; RR-115; RR-117; RR-118; RR-120; RR-121; RR-122; RR-124; RR-125; RR-127; RR-129; RR-130; RR-131; RR-132; RR-133; RR-134; RR-135; RR-138; RR-139; RR-142; RR-143; RR-144; RR-145; RR-147; RR-148; RR-150; RR-153; RR-157; RR-159; RR-160; RR-164; RR-165; RR-166; RR-167; RR-168; RR-170; RR-171; RR-172; RR-174; RR-175; RR-178; RR-179;

[1] Further information on the research used by the Environment Agency in deriving the EALs is available from the following website: https://www.gov.uk/government/consultations/environmental-assessment-levels-eals-used-in-air-emissions-risk-assessments/public-feedback/appendix-c-summary-of-toxicological-evidence-for-mea-and-ndma

		The relationship between the planning process and the pollution control systems is set out at Paragraphs 4.10.1 and 4.10.2 of the NPS EN-1. The two are intended to be '*separate but complementary',* with the planning system controlling the development and use of land in the public interest, and the pollution control system concerned with preventing pollution *'through the use of measures to prohibit or limit the releases of substances to the environment from different sources to the lowest practicable level.'* The way that this relationship is intended to work in practice is confirmed at Paragraph 4.10.3, which confirms that for DCO Applications the decision maker: *'should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves*.' The decision should be based on the assumption that the relevant pollution control regimes will be properly applied and enforced by the relevant regulator and that the decision maker '*should not seek to duplicate'* this process. The point is further made at Paragraph 4.10.8 makes it clear that the SoS '*should not refuse consent on the basis of pollution impacts unless it has good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted.'* In this context the operation of the Proposed Scheme (and ensuring that no significant health impacts arise) will be the subject of a variation to the existing Environmental Permit, EPR/VP3530LS for Drax Power Station. The need to maintain commercial confidentiality is an acknowledged part of the Environmental Permitting process. Chapter 6 of the ES (Document Reference PP-042) sets out that additional model sensitivity has been carried out based on published data in the public domain; and in line with methodology and work undertaken on this topic by the Environment Agency.	RR-180; RR-182; RR-183; RR 184; RR-185; RR-186; RR-187; RR-188; RR-190; RR-191; RR-192; RR-195; RR-196; RR-197; RR-199; RR-200; RR-201; RR-202; RR-203; RR-204; RR-206; RR-207; RR-208; RR-210; RR-211; RR-213; RR-215; RR-217; RR-218; RR-219; RR-220; RR-221; RR-223; RR-224; RR-225; RR-226; RR-227; RR-22 8; RR-229;RR-230; RR-232; RR-233; RR-234; RR-235; RR-237; RR-238; RR-239; RR-241; RR-242; RR-244; RR-245; RR-247; RR-251; RR-252; RR-253; RR-254; RR-255; RR-256; RR-257; RR-258; RR-259; RR-260; RR-261; RR-262; RR-263; RR-264; RR-266; RR-267; RR-268; RR-271; RR-272; RR-273; RR-274; RR-275; AS-040
16.2	The CCS system that Drax Power proposes uses amine solvents to separate the CO2 from the flue gases. We believe that the health risk assessments are lacking detail, in particular with respect to: • The loss of amines from the system and their subsequent degradation into probable carcinogens; • The lack of reliable research that would enable effective regulation and monitoring, as summarised by Scottish Environment Protection Agency report.	Loss of amines has been based on analysis of extensive testing by the technology suppliers (MHI) and Drax Power Station, with a precautionary approach taken to proposed emission limits and the subsequent analysis of health impacts. In this sense, a 'precautionary' approach is to set the emission limits at the achievable level, to ensure worst case impacts are assessed. A 'Review of amine emissions from carbon capture systems' was published in 2015 by SEPA. This predates the Environment Agency consultation exercise and subsequent specification of EALs for amines and nitrosamines, and extensive consultation with operators on the regulation of CCS. It is noted however that SEPA state in this document that adopting a reference substance (for example NDMA) against which total nitrosamine emissions are assessed may be an appropriate approach. This is the approach adopted for this assessment on a conservative basis (by including both nitrosamines and nitroamines in the assessment). SEPA state that limits proposed in, for example, Norway cannot be adopted since the way in which the UK assesses carcinogenicity differs from other countries. As stated above, the Environment Agency have now derived a UK-specific EAL for NDMA – 0.2ng/m^3 – that has been used in the ES. The process for the degradation of products into nitrosamines and nitramines is well documented and has been taken into account in the modelling reported in the ES Chapter 6 (Air Quality) (APP-042), Appendix 6.3 (Atmospheric Dispersion Modelling) (APP-127), and subsequent technical note	RR-008, AS-040

		(Air Quality Technical Note, published 10 October 2022) (AS-019), as has their potential carcinogenic impacts. The regulation of the process will be through the Environmental Permitting process. Projects that pose an unacceptable risk to human health will not be permitted by the Environment Agency who will, as part of the determination process, consult with bodies such as the UKHSA responsible for protecting all members of every community from health threats. Should a permit be granted, it will specify emission limits and appropriate monitoring of the emissions, including frequency, locations and reporting requirements, to ensure that actual impacts do not exceed those reported in the ES and reported in the permit application, which, with the technical note submitted (AS-10), is now consistent with what is before the Examination. It will be the Environment Agency's role to enforce the emission limits and remediation actions should the emission limits be breached. Ultimately, it will be within the Environment Agency's powers, under the permitting regime, to order an amendment to, or the cessation of, operations should the risk to human health be deemed unacceptable. Furthermore, the requirements for monitoring emissions of amines in the exhaust gases, including method and frequency, will be specified in the permit conditions. It is therefore incorrect to state that the CCS process cannot be effectively regulated.	
16.3	There is potential harm to the health and during the Construction phase: Drax's submission document reference 6.1.6, chapter 6, warns about the negative effects of the construction phase, which in a project of this size will inevitably cause dust, noise and increased traffic, this traffic adding to roadside air pollution and increasing the likelihood of traffic accidents. The same document mentions that a cluster of accidents have already occurred at a number of the junctions within the study area; increased traffic is likely to increase the frequency of such accidents. All of these effects will have negative impacts on local people's health and will increase their levels of stress. Mitigation efforts will not be able to wholly eliminate these problems	The assessment of construction impacts from air quality is set out in Appendix 6.2 (Construction & Decommissioning Dust Assessment) (APP-126) and Section 6.9 of Chapter 6 (Air Quality) of the ES (APP-042). Impacts were considered in relation to dust and particulate matter from construction works and from traffic and construction plant. In relation to construction works, the risk of impacts *prior to mitigation* was assessed to be low for all phases of work except demolition for which risks were assessed to be medium. With the proposed mitigation, these risks will be substantially reduced so that no significant health effects are anticipated. Whilst there will be some construction traffic generation, the volumes of traffic generated do not warrant formal air quality assessment (e.g. they are lower than DMRB screening criteria for formal assessment) and, moreover, increases in traffic will be temporary. The transport assessment also does not consider that there will be an increase in frequency of accidents on the local network. Taking into account the good air quality in the vicinity of the power station, there is no credible risk to human health from construction traffic or the construction phase overall in relation to air quality.	RR-013; RR-015; RR-033; RR-080
16.4	There are two likely detrimental effects on people's health of the CCS plant once it becomes operational. The first is noise. The documents submitted to the Planning Inspectorate by the Applicant (5.1.9 Preliminary Environmental Information Report – Vol 3 – Non-Technical Summary) identify one daytime and two night-time sites of potentially high adverse noise impact locally, plus a further three sites that will be subject to moderately high adverse noise impacts. Noise is known to increase stress and cause	Chapter 7 (Noise and Vibration) (APP-043) of the ES states that once contextual factors have been considered (see paragraphs 7.5.46 and 7.5.63), the initial impact estimations on operational noise indicated are held to be not significant. Furthermore, Requirement 17 of the draft DCO (OD-002) 'Control of noise during operation' commits the Applicant to prepare a noise mitigation scheme to be submitted to and approved by the local planning authority (LPA). The Applicant is also obliged to implement the mitigation scheme, as approved, so the LPA will have an opportunity to ensure that a good acoustic design is achieved during the detailed design stage. Requirement 17 also secures the noise rating limits which must not be exceeded at the receptors assessed in the ES.	RR-013; RR-018

	sleep problems, both of which can have serious effects on health. Even more worryingly, the proposed technology for extracting CO2 from the flue gases involves the use of amines (nitrogen-based chemicals) which upon release can form compounds such as nitrosamines and nitramines that are suspected to be carcinogenic (cancer-inducing)	In relation to amines and degradation products: The assessment has been undertaken conservatively and the increase in ground level concentrations represents a small proportion of the Environment Agency environmental assessment level (EAL) for nitrosamines (as NDMA) and the EALs for emitted amines, proposed by the Applicant (which are more stringent than the EALs set by the Environment Agency). Impacts on amines can be screened as negligible. Impacts from nitrosamines have been assessed to be negligible on basis that the EAL has been derived by the Environment Agency on the basis of a negligible cancer risk and the Proposed Scheme's process contribution is a factor of 10 lower than the level assessed to represent a negligible cancer risk i.e. significantly lower again (see response reference no. 16.1 above for more information). There is, therefore, a negligible lifetime cancer risk from exposure to amine degradation products that may arise from the Proposed Scheme.	
16.5	Since there is no working CCS facility of this type to provide data, the estimates of the noise, pollution and other impacts on human health of the plant when operational are likely to involve a wider margin of uncertainty than for tried and tested, well-documented technologies, so the actual health effects of the plant when operational may be worse or better than predicted. It seems unwise where human health is concerned to assume the latter. Therefore, on the grounds of the possible threats to the health of local people, I believe permission for the CCS facility should not be granted	All air quality assessments are undertaken on a conservative basis. They employ conservative assumptions in the modelling and assess the impacts against standards that have themselves incorporated uncertainty factors. The conclusions of this assessment, that UKHSA have agreed with, is that no significant health effects are likely from the operation. Further information on the conservatism applied to the assessment of human health effects from CCS emissions (specifically amines and associated degradation products) is provided in ES Chapter 6 (Air Quality) (APP-042), Appendix 6.3 (Atmospheric Dispersion Modelling) (APP-127), and subsequent technical note (AS-019). In addition, an overview of the conservatism applied is provided in row 16.1 above. Should the performance of the plant, when operational, differ from that in the permit variation application (which is consistent with the material before the Examination), then this would be dealt with through the permitting and regulatory regime by the Environment Agency.	RR-013
16.6	Has the risk of producing carcinogens from the chemicals used to clean the flues been assessed? Does the process need to be assessed on a small scale if it is unproven?	The EA have set the EALs associated with MEA and NDMA based on the interpretation and understanding of toxicological and epidemiological assessments and then applied a significant margin of safety in order to generate a very conservative threshold. The technology provider for the capture technology has provided the relevant data on the chemical species which comprise the solvent and hence the assessment undertaken and air dispersion modelling has used the best available data. The air dispersion model itself takes a conservative approach in itself and assumes poor meteorological conditions for dispersion as well as assuming that both the BECCS units are running every hour of every day. Monitoring systems will be applied to ensure that the concentrations and levels of amines being released are within the design parameters set. The risk of producing amine compounds and associated degradation products (nitrosamines and nitramines), some of which represent potential carcinogenic compounds, has been assessed conservatively within ES Chapter : (Air Quality) (APP-042), Appendix 6.3 (Atmospheric Dispersion Modelling) (APP-127), and subsequent technical note (AS-019). In addition, further information on the additional lifetime cancer risk associated with the proposed Scheme is provided in row 16.1 above. The air quality assessment concluded that no significant health effects are likely. The additional lifetime cancer risk from the Proposed Scheme, in relation to amine emissions, is negligible.	RR-066, AS-040

ECOLOGY AND BIODIVERSITY

Table 17.1 – Ecology and Biodiversity

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
17.1	The proposal will lead to the disturbance and degradation of vital habitats and so risk harming a wide range of protected species. It is therefore not a sustainable development as defined by the National Planning Policy Framework. It fails to protect the natural environment or to enhance biodiversity, and is incompatible with: a) Commitments made in the Environment Act 2021 to support the "conservation and enhancement of biodiversity in England" b) The aims of the Defra Nature Recovery Green Paper (March 2022) "to address the drivers of nature's decline including habitat deterioration, loss and fragmentation". The proposed development will adversely impact nationally- and internationally designated areas that cannot be adequately mitigated or compensated for.	Whilst the Applicant acknowledges that habitats will be removed as part of the Proposed Scheme (primarily those of low biodiversity value), multiple measures have been designed to safeguard habitats and protected and notable species and to mitigate for predicted impacts. This also includes the restoration, creation and enhancement of priority and widespread habitats to improve ecological networks and encourage the recovery of protected and notable species, especially in areas currently unsuitable for them. The use of an existing power station for the deployment of CCS technology has allowed the landtake of semi-natural and farmland habitats to be minimised relative to what would be required for construction in a greenfield site. Much of the landtake associated with the Proposed Scheme is also temporary, associated with construction laydown areas, storage and facilities for construction teams. Where impacts cannot be avoided on-site, adequate mitigation and where necessary compensation has been secured in nearby locations, local to the impact. These measures are included within the Outline Landscape and Biodiversity Strategy (APP-180), and collectively adhere to national and local planning policy. Moreover, the Applicant can confirm that the Proposed Scheme can deliver measurable net gains for biodiversity, achieving a minimum of 10% Biodiversity Net Gain which further adheres to policies included within the NPPF and Environment Act 2021.	RR-018; RR-019
17.2	The Applicant's Ecology Report for the project states that this development will lead to the degradation and destruction of a number of internationally, nationally and locally important habitats where ecological surveys found rare and protected species, including orchids, water voles, otters, Great Crested Newts and many species of birds.	There is no reference to destruction of Important Ecological Features in ES Chapter 8 (Ecology) (APP-044). Whilst the Applicant has acknowledged that alteration and degradation of habitats within statutory designated sites as a result of operational emissions to air could occur, mitigation has been included in the Proposed Scheme to address this. These would be secured by the proposed variation to the existing Environmental Permit for the site. Moreover, a range of ecological mitigation and enhancement measures have been identified for inclusion in the CEMP for the Proposed Scheme (as described in the Register of Environmental Actions and Commitments (REAC) (AS-092) the mitigation within which will be secured by requirements in the DCO and which includes a requirement for a CEMP to be produced) which would safeguard protected and notable species identified within and in proximity to the Proposed Scheme. Whilst the Applicant acknowledges that habitats will be removed as part of the Proposed Scheme (primarily those of low biodiversity value), multiple targeted measures have been designed (alongside precautionary measures) to safeguard habitats and protected and notable species and mitigate for predicted impacts. This also includes the restoration, creation and enhancement of priority and widespread habitats to improve ecological networks and encourage the recovery of protected and notable species, in areas currently unsuitable for them.	RR-006; RR-009; RR-010; RR-012; RR-013; RR-017; RR-027; RR-031; RR-034; RR-035; RR-037; RR-038; RR-045; RR-047; R-050; RR-053; RR-054; RR-058; RR-062; RR-063; RR-070; RR-071; RR-072; RR-074; RR-075; RR-077; RR-078; RR-079; RR-080; RR-081; RR-082; RR-084; RR-085; RR-086; RR-087; RR-088; RR-093; RR-094; RR-095; RR-096; RR-098; RR-099; RR-100; RR-101; RR-102; RR-103; RR-104; RR-106; RR-107; RR-108; RR-110; RR-111; RR-113; RR-114; RR-117; RR-118; RR-120; RR-121; RR-122; RR-124; RR-125; RR-127; RR-129; RR-130; RR-131; RR-132; RR-133; RR-134; RR-135; RR-138; RR-139; RR-142; RR-143; RR-144; RR-145; RR-147;

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		Where impacts cannot be avoided on-site adequate mitigation and compensation has been secured. These measures are included within the Outline Landscape and Biodiversity Strategy (APP-180) and are described in Section 8.10 of ES Chapter 8 (Ecology) (APP-044).	RR-148; RR-150; RR-153; RR-157; RR-159; RR-160; RR-164; RR-165; RR-166; RR-167; RR-168; RR-170; RR-171; RR-172; RR-174; RR-175; RR-178; RR-179; RR-180; RR-182; RR-183; RR 184; RR-185; RR-186; RR-187; RR-188; RR-190; RR-191; RR-192; RR-195; RR-196; RR-197; RR-199; RR-200; RR-201; RR-202; RR-203; RR-204; RR-206; RR-207; RR-210; RR-211; RR-213; RR-215; RR-218; RR-219; RR-220; RR-221; RR-223; RR-224; RR-225; RR-226; RR-227; RR-228; RR-230; RR-232; RR-233; RR-234; RR-235; RR-237; RR-238; RR-239; RR-241; RR-242; RR-244; RR-245; RR-247; RR-251; RR-252; RR-253; RR-254; RR-255; RR-256; RR-257; RR-258; RR-259; RR-260; RR-261; RR-262; RR-263; RR-264; RR-266; RR-267; RR-268; RR-271; RR-272; RR-273; RR-274; RR-275.
17.3	This development will cause irreversible harm of major magnitude to local ecology as described in the Applicant's own Ecology Report: "*Given the scarcity of green-winged orchid within North Yorkshire, including being classified as Near Threatened on the Vascular Plant Red Data List for Great Britain, construction of the Proposed Scheme would give rise to an adverse impact that is of major magnitude, irreversible and considered to be significant at a County scale*."	Measures to mitigate and compensate for impacts on the identified population of green-winged orchids are referred to in Section 8.10 of ES Chapter 8 (Ecology) (APP-044). A mitigation strategy has been produced and is documented in the Outline Landscape and Biodiversity Strategy (APP-180) for the Proposed Scheme. This includes the translocation of individual orchids to a receptor site which is located within Fallow Land within the Off-site Habitat Provision Area to the west of Drax Power Station Site (see Figure 1 in the Outline Landscape and Biodiversity Strategy (APP-180). On completion of the Proposed Scheme, it is expected that there would also be natural regeneration and recolonisation of habitats in the area currently supporting the population of green-winged orchids ('the Old Wood Yard'), as described in the Outline Landscape and Biodiversity Strategy (APP-180). Following implementation of the mitigation measures referred to above, impacts on green-winged orchid are predicted to reduce to minor magnitude, with effects predicted to be adverse, significant at a County scale in the short term until successful establishment of the green-winged orchid receptor site is complete in the operational phase.	RR -173

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
17.4	The application for consent: a) relies on some outdated species surveys from 2018 and therefore does not properly assess the impact on biodiversity of the proposed development. b) does not pay sufficient attention to the potential for damage to watercourses by sediment and accidental release of chemicals.	Ecological survey and assessment data obtained for species and habitats in 2018 have been used to supplement recent survey data in the assessment reported in ES Chapter 8 (Ecology) (APP-044). Updated habitat surveys have been undertaken to ascertain if there has been a change in the ecological baseline and to assess areas not previously assessed. The ecological baseline pertaining to protected and notable species has not changed significantly since 2018. This is because the habitats within the Drax Power Station Site have largely remained similar and have not changed significantly since then. This outcome has been reconfirmed through the updated Preliminary Ecological Appraisal (APP-136) which has considered CIEEM's guidance on the lifespan of ecological reports and surveys (CIEEM, 2019). The surveys undertaken specifically for the Proposed Scheme (great crested newts, wintering birds, and terrestrial invertebrates) were carried out as a result of habitats becoming more suitable for these species in localised areas within and in proximity to the Drax Power Station Site, and due to needing to survey additional areas that were not included in the Drax Repower scheme. The Applicant acknowledges that there could be the potential for damage to watercourses in relation to the accidental or incidental release and mobilisation of sediment and other potential water-borne pollutants. With this in mind, the Applicant has identified the mitigation measures referred to in ES Chapter 8 (Ecology) (APP-044) and outlined in ES Chapter 12 (Water Environment) (APP-048), which are appropriate to minimise the risk of occurrence and manage any pollution events should they occur. These measures are presented between paragraphs 12.10.12 and 12.10.21 of Chapter 12 (Water Environment) (APP-048) including a Surface Water Drainage Strategy (SWDS) (APP-162) and environmental best practice measures within a CEMP, compliance with which is secured by the DCO.	RR-005; RR-008; RR-018; RR-033
17.5	The potential harm to nature, both during construction and during the plant's subsequent operation This area of the country is of considerable nature value. There are six non-statutory Designated Sites of County Importance within 2 km of the proposed scheme, plus a further six Designated Sites of National Importance within 5 km and 10 Designated Sites of International Importance within 15 km. Badgers, bats, otters, water vole, breeding and wintering birds, amphibians, reptiles, terrestrial invertebrates and rare plants have been identified within the Site during previous surveys, and surveys conducted for this planning application have confirmed the presence of otters at and adjacent to the Site and the presence of water voles within the Pipeline Area. In addition, the submissions relating to the environmental impact of the	No bat roosts have been identified within the Drax Power Station Site to date, in buildings or in trees. With the exception of the buildings that have previously been subjected to bat surveys, all other buildings have negligible suitability for roosting bats or are within areas unaffected by the Proposed Scheme. As a result, it is anticipated that there would be no removal of bat roosts as a result of construction as no suitable buildings or trees are present within areas to be cleared or demolished. The Proposed Scheme largely comprises the modification of existing infrastructure and construction within areas of hard standing and urban features which have limited suitability for biodiversity. No key bat commuting routes are expected to be removed as there are existing gaps between affected vegetation as a result of existing roads, areas of hard-standing and lighting within the Drax Power Station Site. Whilst it is acknowledged that certain features suitable for	RR-013; RR-015; RR-041

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	proposed project make it clear that bat roosting places might be affected, and an environmental report relating to badgers has been withheld from the public on grounds of confidentiality: 6.3.8.5 Environmental Statement Volume 3 Appendix 8.5: Badger Summary Report (Confidential). According to the Applicant's submissions to the Planning Inspectorate, "*Potentially significant residual effects are anticipated on commuting and foraging bats, breeding and wintering birds and terrestrial invertebrates as a result of short-term habitat loss during the construction phase. These effects are likely to extend into the early operational phase while reinstated and replacement habitat matures*." Clearly, the years-long construction phase is likely to have a negative impact on local wildlife, and ecological systems, once disturbed, cannot always regain their original richness or stability. In addition, once the facility is operational, there will be further negative effects on local nature as a result of the deposition of nitrogen compounds. Section 6.2.9.9 of the Applicant's submissions states that the effects of nitrogen deposition on some designated ecological sites are considered to be "potentially significant". Considering these negative effects on the local natural environment, which is recognized as including areas of county, national and international importance, I believe that the application should be rejected on the grounds that it contravenes both local and national development and environmental plans such as ENV9 (Selby District Local Plan) and the 25 Year Environment Plan, in which the Government committed to leaving nature in a better state than they found it.	commuting and foraging bats are to be lost as result of construction, these are to be replaced and, in some areas, replaced with habitats of a better quality and condition, ultimately providing additional benefits for biodiversity. We note the following statement from the submission: '*and surveys conducted for this planning application have confirmed the presence of otters at and adjacent to the Site and the presence of water voles within the Pipeline Area'* (our emphasis added). We assume this refers to survey data relating to the Drax Repower project, as there is no 'Pipeline Area' associated with the Proposed Scheme. The location referred to is outside the Proposed Scheme Order Limits, with water vole populations in this area (if still present) not expected to be subject to any effects whatsoever as a consequence of the Proposed Scheme. Whilst the Applicant acknowledges that habitats will be removed as part of the Proposed Scheme (primarily those of low biodiversity value), multiple targeted measures have been designed (alongside precautionary measures) to safeguard habitats and protected and notable species and mitigate for predicted impacts. This also includes the restoration, creation and enhancement of priority and widespread habitats to improve ecological networks and encourage the recovery of protected and notable species, in areas currently unsuitable for them. Where impacts cannot be avoided on-site adequate mitigation and compensation has been secured. These measures are included within the Outline Landscape and Biodiversity Strategy (APP-180) and are described in Section 8.10 of ES Chapter 8 (Ecology) (APP-044). Moreover, the Applicant can confirm that the Proposed Scheme can deliver measurable net gains for biodiversity, achieving a minimum of 10% Biodiversity Net Gain which further supports policies included within the NPPF and Environment Act 2021. With regard to ENV9 of the Selby District Local Plan, this refers to proposals that '*would harm a local nature reserve, a site of local importance for nature conservation or a regionally important geological/geomorphological site'*. There are no direct impacts on any of these sites, nor will habitats within these sites be removed as part of the Proposed Scheme. As per the assessment made in ES Chapter 8 (Ecology) (APP-044), impacts are predicted to be negligible, and effects of the Proposed Scheme are predicted to be not significant.	
17.6	Considering these negative effects on the local natural environment, which is recognized as including areas of county, national and international importance, I believe that the application should be rejected on the grounds that it contravenes both local and national development and environmental plans such as ENV9 (Selby District Local Plan) and the 25 Year Environment Plan, in which the Government	Ecological survey and assessment data obtained for species and habitats in 2018 have been used to supplement recent survey data in the assessment reported in ES Chapter 8 (Ecology) (APP-044). Updated habitat surveys have been undertaken to ascertain if there has been a change in the ecological baseline and to assess areas not previously assessed. The ecological baseline pertaining to protected and notable species has not changed significantly since 2018. This is because the habitats within the Drax	RR-013; RR-015; RR-041

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	committed to leaving nature in a better state than they found it.	Power Station Site have largely remained similar and have not changed significantly since then. This outcome has been reconfirmed through the updated PEA (APP-136) which has considered CIEEM's guidance on the lifespan of ecological reports and surveys (CIEEM, 2019). The surveys undertaken specifically for the Proposed Scheme (great crested newts, wintering birds, and terrestrial invertebrates) were carried out as a result of habitats becoming more suitable for these species in localised areas within and in proximity to the Drax Power Station Site, and due to the need to survey additional areas not included in the Drax Repower Scheme. The Applicant also notes that deployment of BECCS at Drax Power Station will result in a substantial contribution of negative emissions towards the UK carbon budget and Net Zero targets, and will make a meaningful contribution to a future carbon negative electricity system. Limiting man-made climate change would have beneficial consequences for biodiversity in the UK and beyond.	
17.7	The Biodiversity Net Gain proposals for the Proposed Project do not cover river units. -the application for the Proposed Project fails to recognize that there may be increased NOx deposition which could impact habitats within the surrounding protected sites.	The Biodiversity Net Gain assessment report includes the baseline and post-development biodiversity units for rivers and streams at the time of submission, As concluded, at the time of submission the Proposed Scheme demonstrated a no net loss in rivers and streams habitats. Exploration of habitat proposals for rivers and streams habitats was ongoing at the time of submission, this is due to specific habitat features needed to provide a gain in units that were of the same nature as the habitats within the Proposed Scheme. The Applicant can confirm that a solution to increase the number of rivers and streams units has been identified, and will report on this further during Examination. The Applicants assessment of nitrogen deposition on protected sites is included in Chapter 8 (Ecology) of the ES (APP-044) and the HRA Report (APP-195).	RR-047
17.8	We object to the purpose of this application due to concerns about carbon capture technology which have been articulated by the Royal Society of Wildlife Trusts (RSWT) and other NGO's, relating primarily to 'uncapturable' emissions, including foregone sequestration. (NGO submission to the Department for Business, Energy and Industrial Strategy, 15 June 2021, relating to Role of biomass in achieving net zero: call for evidence).	Emissions ($kgCO_2e/MWh$), from each stage of the biomass supply chain from processing at origin to combustion ('uncapturable') have been quantified and assured by Bureau Veritas (see Appendix E). This data has been applied to the "do nothing" and "do something" scenarios of the ES (Chapter 15) (APP-051) to quantify emissions from the biomass supply chain. Where carbon impacts from clearing and re-planting fall outside of emissions from processing at origin ('foregone sequestration'), these are outside of the scope of the GHG assessment. This is due to two reasons; 1. The GHG protocol provides guidance on the scope of GHG assessment. The most relevant piece of this guidance is the Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011) because it covers quantification of	RR-056

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		carbon from supply chains. On page 34 of this guidance it defines the minimum boundary that should be included within a GHG emissions assessment for "Fuel and energy related activities". This requires "All upstream (cradle-to-gate) emissions of purchased fuels (from raw material extraction up to the point of, but excluding combustion)". The term cradle to gate is defined by EN15978: Sustainability of Construction Works. The first stage of cradle to gate is raw material extraction. This stage is covered by processing at origin and therefore is included. Other potential emissions sources are therefore outside of scope. 2. Furthermore, the emissions associated with land use change at the point of clearance are out of scope as they are biogenic short cycle emissions sources rather than fossil emissions sources (carbon is removed from the atmosphere as biomass grow and is returned to the atmosphere when biomass is combusted). This is why emissions from biomass are described as "outside of scopes" within UK carbon reporting guidance (2021 Government Greenhouse Gas Conversion Factors for Company Reporting - Methodology Paper for Conversion factors Final Report, BEIS 2021) The Government position on Carbon Capture and Storage is set out in NPS for Energy (EN-1), however this is generally focused on fossil fuel power stations, rather than biomass units. The Policy is supportive of CCS proposals and requires all new combustion generating stations to be 'Carbon Capture Ready'. The draft Outline National Policy Statement for Energy (EN1) (September 2021) has a greater focus on CCS with the use of bioenergy. The draft Policy states under paragraph 3.5.1 "*New carbon capture and storage (CCS) infrastructure will be needed to ensure the transition to a net zero economy. The Committee on Climate Change states CCS is a necessity not an option"*. *"CCS infrastructure will also be needed to capture and store carbon dioxide from hydrogen production from natural gas, industrial processes, the use of bioenergy (BECCS) and from the air (DACCS)."* Paragraph 3.5.3 continues to state that *"There do not appear to be any realistic alternatives to new CCS infrastructure for delivering net zero by 2050"*	
17.9	The Applicant's Ecology Report for the project states that this development could lead to the degradation and destruction of a number of internationally, nationally and locally important habitats where ecological surveys found rare and protected species, including orchids, water voles, otters, Great Crested Newts and many species of birds.	There is no reference to destruction of Important Ecological Features in ES Chapter 8 (Ecology) (APP-044). Whilst the Applicant has acknowledged that alteration and degradation of habitats within statutory designated sites as a result of operational emissions to air could occur, mitigation has been included in the Proposed Scheme to address this. These would be secured by the proposed variation to the existing Environmental Permit for the site. Moreover, a range of ecological mitigation and enhancement measures have been identified for inclusion in the CEMP for the Proposed Scheme (as described in the Register of Environmental Actions and Commitments (REAC) (AS-092) the mitigation within which will be secured by requirements in the DCO and which includes a	RR-009; RR-010; RR-012; RR-013; RR-027; RR-031; RR-034; RR-035

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		requirement for a CEMP to be produced) which would safeguard protected and notable species identified within and in proximity to the Proposed Scheme. Water voles have not been recorded in locations where they would be subject to significant effects as a result of the Proposed Scheme.	

Table 18.1 – Sustainable Development

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
18.1	The government classes energy from burning trees as 'low-carbon' and argues that it can help "*tackle climate change*". I strongly disagree with this, as do hundreds of scientists and environmental NGOs around the world who highlight that burning wood is as bad for the climate as fossil fuels and that Applicant's position that BECCS can achieve "negative emissions" are based on the false assumption that logging, transporting and burning trees in power stations can be "carbon neutral." The development of a CC&S facility at Drax is not a genuinely sustainable strategy for a further reason: because the underlying means of power generation is not sustainable. Although wood-fired power generation is currently classed by the UK Government as renewable energy – we can grow more trees – it is certainly not a carbon-free source of energy at the time the wood is burned and it takes upwards of 40 years for a newly planted forest to sequester the same amount of carbon as was sequestered in mature forests felled for wood pellets.	The Application relates to the installation and operation of CCS technology and the principle of using Biomass to generate electricity is not within the scope of the application. The sustainability credentials of biomass are not a relevant consideration to the question of whether or not it is acceptable for CCS technology to be applied. The Government's policy on the use of BECCS technology is set out in the Government's Biomass Policy Statement document published in November 2021. Part 2.7 of the document confirms that: '*it is not possible to achieve net zero without BECCS*' (Page 35) and that: '*Over time, as the technology develops, we expect biomass use to also be focused on applications that can deliver negative emissions through Bioenergy with Carbon Capture and Storage (BECCS), while also supporting energy security*.' (Page 5). Notwithstanding that the application is for the use of CCS technology, it is the Applicant's position that the Government has a clearly stated position on the use of biomass which is set out in the NPS for Energy (EN-1). Paragraph 3.4.3 of this document states that, "*biomass is a significant source of renewable and low carbon energy. It involves the combustion of fuel, such as wood, which is renewable because, through replanting and regrowth, the biomass can be replaced in a matter of decades and this cycle can be continuously repeated. Whilst energy is required to grow, harvest and transport it, biomass is considered to be low carbon, providing that the biomass has been cultivated, processed and transported with due consideration of sustainability. Its combustion also displaces emissions of carbon dioxide ordinarily released using fossil fuels*." This importance of Biomass in electricity generation is reinforced in the emerging NPS which confirms at paragraph 2.5.1 that the combustion of Biomass for electricity generation plays: *'an important role in meeting the UK's energy needs and supports the decarbonisation of the sector'* and that Biomass: '*also has a potentially significant role in supporting delivery towards the UK's net zero target when combined with carbon capture and storage*.'	RR-007; RR-020; RR-028; RR-030; RR-033; RR-064; RR-112
18.2	The UK's Department for Business, Energy and Industrial Strategy is developing a new policy on biomass, due to be published in late 2022. This may mean there will be a change in the Government's	As the application is for the use of CCS technology, the status of biomass itself is not germane to the application.	RR-013; RR-015

	view of biomass as low carbon. In the light of that possibility, it seems unwise to give permission for the BE and CC&S project at Drax Power Station to go ahead since wood may, in the future, be reclassified as a high-carbon source of electrical power.	In any event, the Applicant considers that there is no reason to speculate that there is a threat of wood being classified as a 'high carbon source of electrical power' particularly in light of the recent Power BECCS business model consultation referring to biomass as low carbon. Speculation about the potential future position of Governments should not form part of the decision-making process for the installation of CCS technology.	

HIGHWAY MATTERS

Table 19.1 – Highway Matters

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
19.1	The impact on local and major road networks are such that the safe and suitable tests in the NPPF are not met and should be refused - the NPPF sets out clearly at para 111, that 'development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety , or the residual cumulative impacts on the road network would be severe.' - The applicant has clearly stated in their submission documents that there will be a 'major adverse' impact on congestion and a 'minor adverse' impact on highway safety at junction 36 of the M62	The Applicant acknowledges cumulative effects are predicted during construction at Junction 4 should short listed developments be built out and other background growth is realised without an upgraded junction being delivered. However, the impacts of the Proposed Scheme traffic itself are minimal as in line the significance criteria used in Chapter 5 (Traffic and Transport) (APP-041), the effects of construction traffic on all road links are anticipated to be negligible or slight and thus not significant. However, there could be significant temporary cumulative effects in relation to driver delay and highway safety at Junction 4 if all other committed developments are built out and the junction is not upgraded. Further discussions are required with East Riding of Yorkshire (ERoY) and National Highways to understand the timescales and mechanism to upgrade Junction 4 to accommodate planned growth and if this would result in a reduced impact at the junction. It is considered that the temporary construction phase impacts can be effectively mitigated through enhanced management of the construction traffic, with robust monitoring and reporting measures included in the Outline Construction Traffic Management Plan (CTMP) (Appendix 5.1) (OD-009) and Framework Construction Worker Travel Plan (CWTP) (Appendix 5.2) (APP-120). Discussions are on-going with National Highways and ERoY regarding planned improvements, temporary impacts, and proportionate mitigation including robust monitoring. It is considered that the traffic from the Proposed Scheme does not have an unacceptable impact on highway safety, or that the residual cumulative impacts on the road network would be severe.	RR-007

LANDSCAPE AND VISUAL IMPACTS

Table 20.1 – Landscape and Visual Impacts

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
20.1	The applicant has stated that there will be a 'moderate adverse' impact on the visual amenity of the nearest residents and users of the Public Rights of Way network surrounding the site - mainly due to the flat topography of the site and surrounding land allowing for long ranging views	Noted. It is assumed that this comment relates to the temporary 'moderate adverse' effects identified for the construction phase, rather than the assessment of effects identified for the operational phase, contained in Chapter 9 (Landscape and Visual Amenity) of the ES (APP-045). For details relating to the moderate adverse effects during the construction phase, please refer to 'Table 9.4 – Significant Landscape and Visual Effects – Construction and Decommissioning', and 'Table 9.7 – Summary of significant residual landscape and visual effects' within Chapter 9. For both residents and users of the PRoW that will experience a change in views resulting in a moderate adverse effect during the construction phase, it is clearly stated that, "*the effects would be temporary, short term, and would only impact a small portion of the view at close proximity*." Paragraphs 9.11.2 and 9.11.3 outline mitigation measures that will reduce the magnitude of change for significantly affected visual receptors and that "All effects would be temporary". Please also refer to Figure 9.6 (Viewpoint Photography)) (APP-130).The conclusion of the assessment, as detailed within Paragraph 9.11.4, is that: '*There are no significant effects identified for landscape and visual associated with the operation phase of the Proposed Scheme, as such there are no specific mitigation measures introduced to reduce or avoid the likelihood of significant effects.'*	RR-007

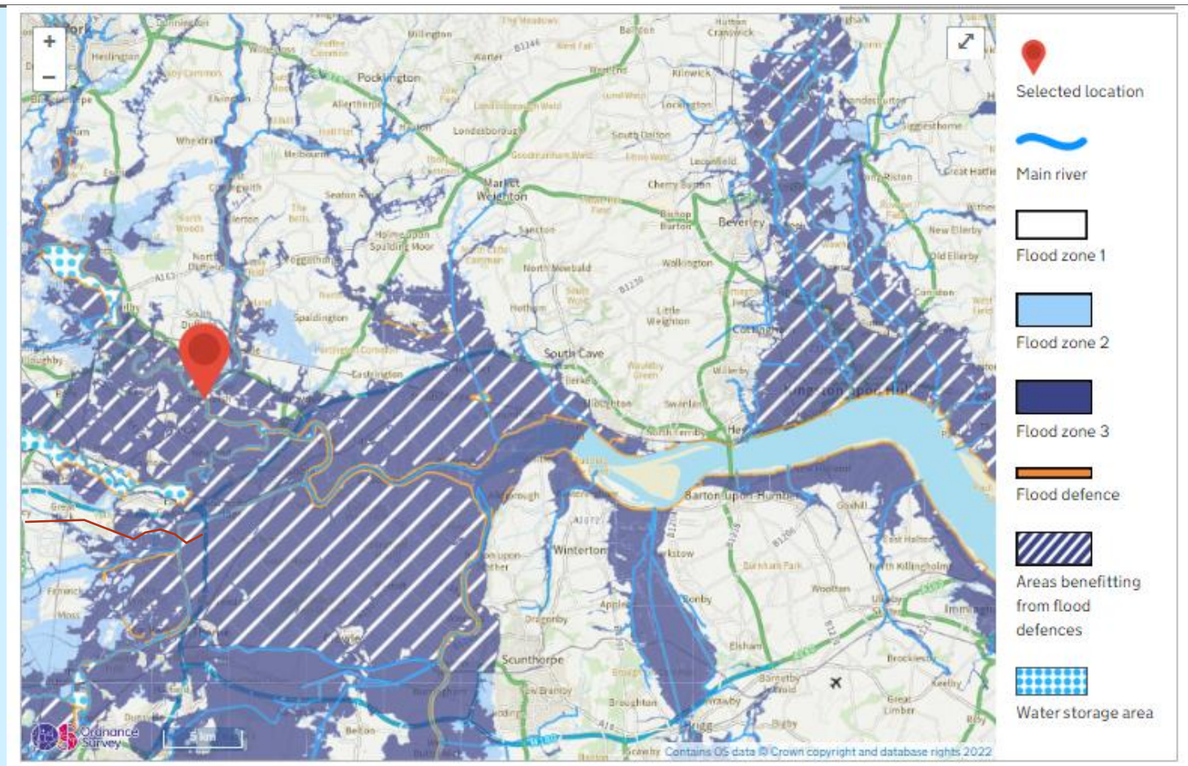
NOISE

Table 21.1 – Noise

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
21.1	Negative local impacts, such as traffic noise levels in excess of the recommended World Health Organisation limits	Chapter 7 (Noise and Vibration) of the Environmental Statement (APP-043) presents an assessment of the likely change in noise levels due to additional generation of traffic movements during operation. The results of the assessment presented in Appendix 7.5 (Road Traffic Noise Assessment) (APP-134) indicate that traffic noise levels are unlikely to change. The noise effect arising from the Proposed Scheme is therefore considered to be not significant.	RR-020; RR-036

Table 22.1 – Hydrology and Flood Risk Assessment

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
22.1	The Applicant's flood risk assessment fails to consider risks to the rail supply network which we believe is a major omission as it crosses both the Aire and the Ouse flood plains	The risk of flooding leading to a temporary closure of the railway links, is (i.e. pre-Scheme) and will remain (i.e. post Scheme) an operational risk, which is accepted by the Applicant, that in exceptional circumstances may lead to a shutdown of the plant, as sufficient fuel cannot be transport to the Power Station. There are two different aspects to the rail infrastructure, Drax Rail and Network Rail, these are addressed below: <u>Drax Rail</u> This is the rail infrastructure owned and operated by Drax Power Limited, and is limited to the infrastructure within the Drax Power Station Site, the A645 being the southerly limit. The flood maps within Appendix L of the Flood Risk Assessment (FRA) (APP-160) demonstrate that the turning head of the Drax Rail Infrastructure (which is used to deliver biomass in the current and proposed scenarios) is outside of the floodplain for the design and sensitivity events considered in the FRA. The Proposed Scheme will not alter the flood risk to the Drax Rail infrastructure as no alterations to the Drax Rail are proposed and this will remain in use for rail deliveries. <u>Network Rail</u> The Proposed Scheme does not include any alterations to the Network Rail infrastructure, as such the flood risk to this remains as is, both pre and post Scheme. As identified by Just Transition Wakefield, the Environment Agency's Flood Map for Planning shows that the Network Rail infrastructure (i.e. that beyond the extents of Drax Rail) parts of which will be utilised for the on-going operational needs for the wider Power Station Site, crosses both the Aire and Ouse floodplains. These floodplains are shown on the Environment Agency's Flood map for Planning to be defended floodplain. This means that the risk of flooding to the rail network is a residual risk, associated with a breach or overtopping of the defences by an event beyond the design standard (1 in 100 year for fluvial or 1 in 200 year for tidal flood events).	RR-015; RR-019

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
		 In accordance with the Climate Change Act (2008), Network Rail are managing the flood risk to their infrastructure to their design standards, the risk and design standards will not change as a result of the Proposed Scheme. Scope of the FRA The strategic public infrastructure is not assessed within the Flood Risk Assessment (FRA) (APP-160). This is in accordance with the National Significant Infrastructure Planning (NSIP), National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG). The Flood Risk and Coastal Change section of the Planning Practice Guidance, defines the assessment of a site-specific flood risk assessment (paragraph 021), the scope and findings of the FRA have been agreed with the Environment Agency.	
22.2	It is concerning that the Environment Agency (EA) initially states that the environmental statement is satisfactory given that some issues, such as flooding and waste water, are noted to not be adequately addressed in the later parts of the representation. We also note that the original Drax	It is the Applicant's view that the EA were largely satisfied with the water environment submissions, however, they required relatively minor clarifications on some aspects, which were detailed later in their response. The Applicant can confirm that since the submission of the Relevant Representations, the EA have approved the hydraulic flood model, without the need for updates following their review. This will be reflected in the updated SoCG to be submitted at Deadline 1.	AS-040

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	submission to the Environment Agency had to be sent back.		
22.3	Flood Risk Assessment (in reference to 1.3.3. Volume 3 – Appendix 12.1 Flood Risk Assessment): We understand that the applicant is currently in discussions with the EA to resolve outstanding issues around flooding, however, there are some pertinent issues to be raised. Firstly, the latest Climate Change Risk Assessment policy paper (CCRA 2022) advises that climate change adaptation must be integrated effectively into all new infrastructure and that "*the evidence shows that we must be prepared for warming up to 4°C*" (CCRA 2022: 3). This means an increasing flood likelihood of 44% by 2050 and 75% by 2080. The 4°C global warming scenario is not taken into account by the Flood Risk Assessment document. Furthermore, the site is partially located in areas of high flood risk (3a and 3b, including a flood plain). The Sequential and Exception Test was applied to the decision making process, as per NPPF (2021) guidance on sites located in areas of higher flood risk. The justification for the approval despite inherent risks of flooding is based on the benefits outweighing the risks within the Needs and Benefits Statement. We also note that scientists have raised the near term warming projections this year, as well as the proximity to tipping points which include polar ice and glacier melt (impacting on sea levels). To provide a realistic Flood Risk Assessment, these additional factors should also now be taken into account. It is also important in this case to scope in the flood risk to the transport (rail) infrastructure as it lies on the Aire flood plain and has a history of flooding. This raises issues of risk surrounding the continued operation of Drax Power Station, and therefore the BECCS operation.	Since the submission of the Relevant Representations, the EA have approved the Flood Risk Assessment (FRA). The findings of the UKCP18 have been conveyed in planning guidance by the Environment Agency and form the best practice guidance for use in planning applications. These have been adopted for use in this approved FRA. Additionally the FRA utilises the EA's latest design flood levels for the Humber Estuary, which are informed by current science. The EA's flood defences protect the site from a 1 in 200 year flood event, therefore it is considered to be within an area benefitting from defences, under the present day scenario and not within the functional floodplain. The Sequential and exception tests are detailed within the approved FRA. There is no requirement for the Applicant to consider flood risk to the strategic rail infrastructure, which is located outside of the application boundary, The important point (and the policy requirement) is that the Proposed Scheme will not result in a change in flood risk to third party land such as these rail assets Network Rail is the responsible body for managing the flood risk to their assets and ensuring that they remain operational in times of flooding, within the design parameters which they have adopted.	AS-040; RR-015; RR-019; RR-036

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
22.4	Within table 12.2 Elements Scoped Out of the Assessment it is stated that for Foul Water Treatment: No discharge to Yorkshire Water sewers during construction and / or operational phases is proposed. As the EA notes, this is in conflict with document 3.1 Draft Development Consent Order Schedule 1 - Work No. 1 (f) (viii) Work No. 1D common supporting infrastructure including – (aa) a wastewater treatment plant. We agree with the EA that Drax should not be allowed to scope out the drains listed in 2.1.3. In Section 12.7 Baseline Conditions, it is stated in paragraphs.12.7.11 and 12.7.12 that surface water run-off is managed by a drainage system and then discharged into Carr Dyke and the River Ouse. The potential for contaminants in particular silt and gravel during construction entering those waterbodies is concerning, and we agree with the EA that these features should not be scoped out. We also are asking for clarity regarding which drains are hydraulically connected to (i) each other and (ii) the river system and therefore require a risk assessment for the surface run-off into the river system. We believe the Planning Inspectorate and EA should seek clarification on whether the additional waste water treatment plant has sufficient capacity to manage emergencies to protect the drainage system.	This is a misunderstanding of the process water treatment system which is to be implemented within the Proposed Scheme. Full detail is provided within the Applicant's response to the Environment Agency's Relevant Representation (reference 4.2). With regard to the hydraulic connection of drains, an appropriate measure has been included within the updated REAC (AS-029), the measures within which are secured by requirements in the DCO including the requirement for a CEMP to be produced for the Proposed Scheme. Ref ID WE14 will ensure that the contractor is appropriately prepared to implement measures to contain and mitigate any contaminants which are accidently released to the water environment. The existing waste water treatment plant, is not expected to require additional headroom to manage emergencies as expressed in this representation as no construction phase pollution events to the surface water environment would be routed through the waste water treatment plants. The new wastewater treatment plant will be specified to manage the process water and will not be linked to the surface water drainage system. Furthermore, the existing surface water drainage system is not routed through the existing waste water treatment plant, so no adverse impacts on the drainage system are envisaged.	RR-033; AS-040
22.5	In reference to 2.1.4 Table 12.6 Surface Water Features within the study area that have the Potential to be Affected by the Proposed Scheme: We echo concerns raised by the EA regarding the recorded presence of Great Crested Newt, a protected species and therefore a 'sensitive receptor' in contrast to Drax's statement that these ponds are not considered 'sensitive receptors'. We are concerned about this downgrading of habitat for protected species and would welcome comments from the Wildlife Trust on this issue.	Full detail is provided within the Applicant's response to the Environment Agency's Relevant Representation as to why these ponds have been classified as not being sensitive receptors – see reference 4.5.	AS-040
22.6	In reference to 2.1.5 Section 12.9 Preliminary Assessment of Likely Impacts and Effects should clarify why from the surface water receptors identified as 'sensitive', only three	With regard to the hydraulic connection of drains, an appropriate measure has been included within the updated REAC (AS-092), the measures within which are secured by requirements in the DCO including the requirement for a CEMP to be produced for the Proposed Scheme. Ref ID WE14 will ensure that the	AS-040

Response Ref.	Relevant Representation Comment	The Applicant's Response	Relevant Representation Reference Number
	are assessed in relation to increased pollution from silt and sediments: We echo the EA in asking for clarity as to whether Drax is implying that none of the other waterbodies will be affected or because they have not been assessed. Moreover, the changing weather patterns already experienced through climate change mean that extreme rainfall events are more intense, more protracted and increasingly frequent. Risk assessment of the site run-off needs to model widely anticipated extreme weather events and flooding around the site. Prolonged heavy rain could easily carry toxic matter or contaminated water between drains. We are currently not confident that the site bunds are sufficient to isolate the site from flooding from the Ouse and Aire river systems between now and 2050.	contractor is appropriately prepared to implement measures to contain and mitigate any contaminants which are accidently released to the water environment. The site run off is considered within the Surface Water Drainage Strategy (APP-162) which includes climate change allowances as detailed in the response to item 3. The Environment Agency have approved the Flood Risk Assessment which has been updated to include additional assessments of model sensitivity and demonstrates how the Proposed Scheme can be protected from flooding up to 2060, including accounting for breach events.	

APPENDICES

APPLICANT'S RESPONSES TO RELEVANT REPRESENTATIONS

Appendix A – Drainage Maps

Drax Bioenergy with Carbon Capture and Storage

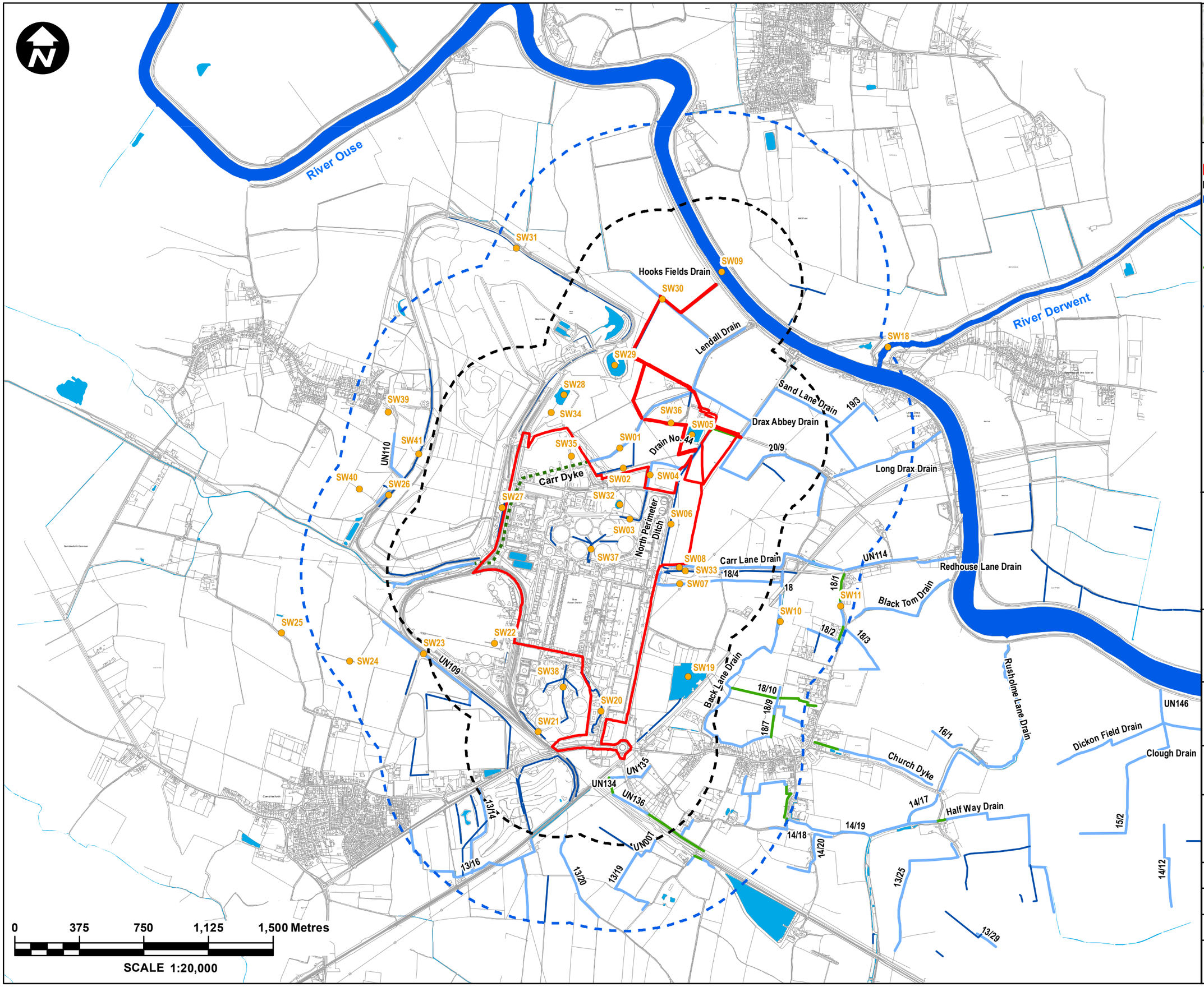
Applicant: Drax Power Limited

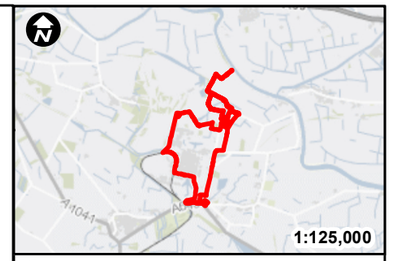
REVISION: 01

DATE: November 2022

DOCUMENT OWNER: WSP UK Limited

PUBLIC





Key:

- Order Limits
- 500 m Buffer
- 1 km Buffer
- Main Rivers
- Waterbodies
- Surface Water Features
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – culverted section
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – open channel
- Carr Dyke - culverted channel under the responsibility of Drax Power Ltd
- Private / Other Drains

drax

wsp

PROJECT TITLE
DRAX BECCS DCO

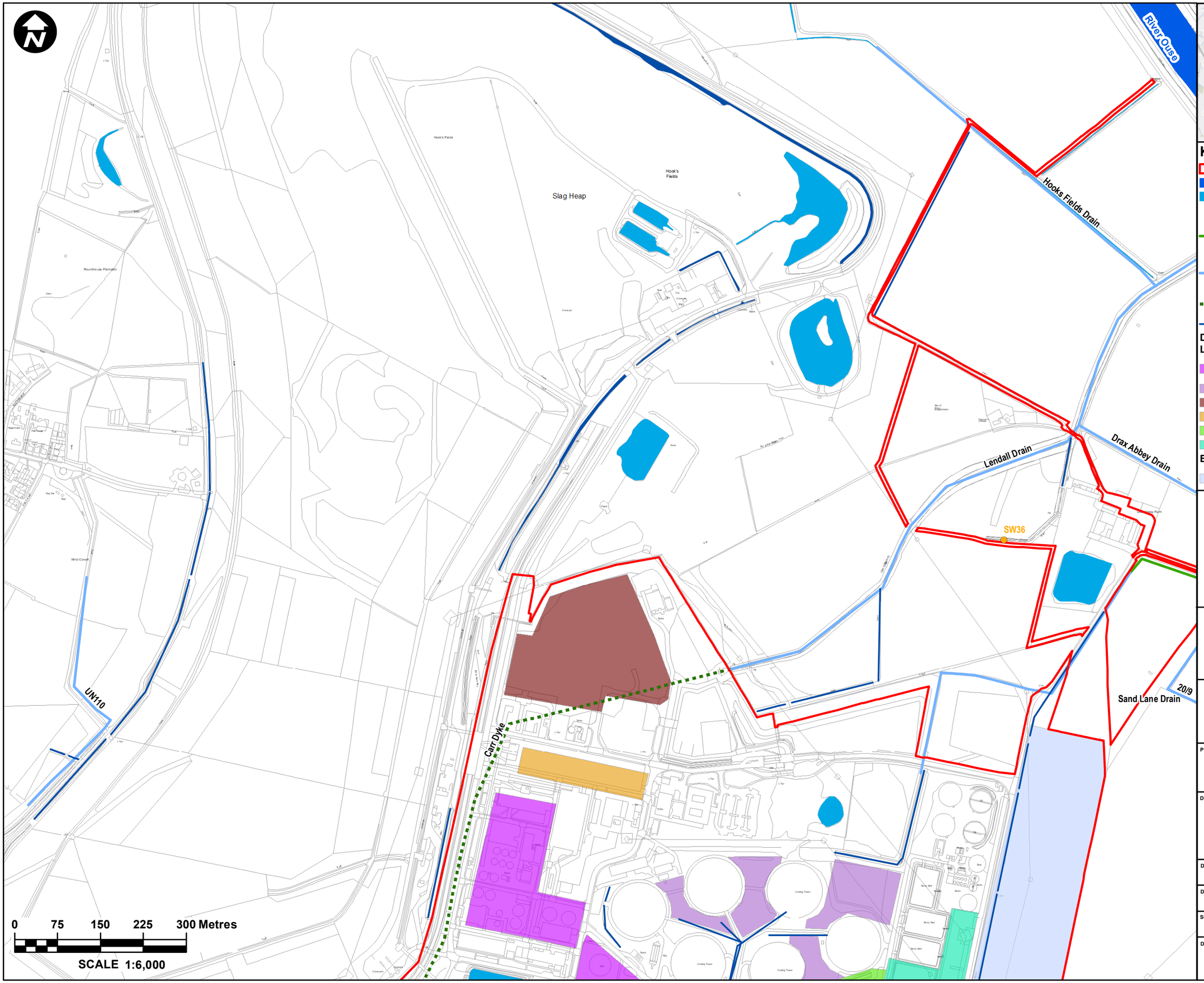
DRAWING TITLE
MAP 1:
SURFACE WATER FEATURES WITHIN 1KM BUFFER

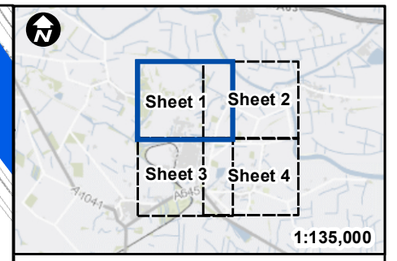
DRAWING STATUS
FOR ISSUE

DRAWN	CHECKED	APPROVED	AUTHORISED
LH	BS	ES	AS

SCALE @ A3 SIZE	DATE	REVISION
1:20,000	04/10/2022	P01

DRAWING NUMBER
EN010120-PA-FCA-EC-29





Key:

- Order Limits
- Main Rivers
- Waterbodies
- Surface Water Features
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – culverted section
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – open channel
- Carr Dyke - culverted channel under the responsibility of Drax Power Ltd
- Private / Other Drains

Drax Power Station Site Construction Laydown Area

- Laydown / Fabrication & Local Construction
- Laydown & Light Fabrication
- Laydown & Heavy Fabrication
- Covered Laydown & Fabrication
- Contractor Village
- Car Parking

East Construction Laydown Area

- Light Fabrication / Large Transport receipt / Overflow Car Park

drax

wsp

PROJECT TITLE

DRAX BECCS DCO

DRAWING TITLE

MAP 2:
ENVIRONMENT AGENCY RELEVANT REPRESENTATIVE COMMENTS - SURFACE WATER FEATURES
SHEET 1 OF 4

DRAWING STATUS

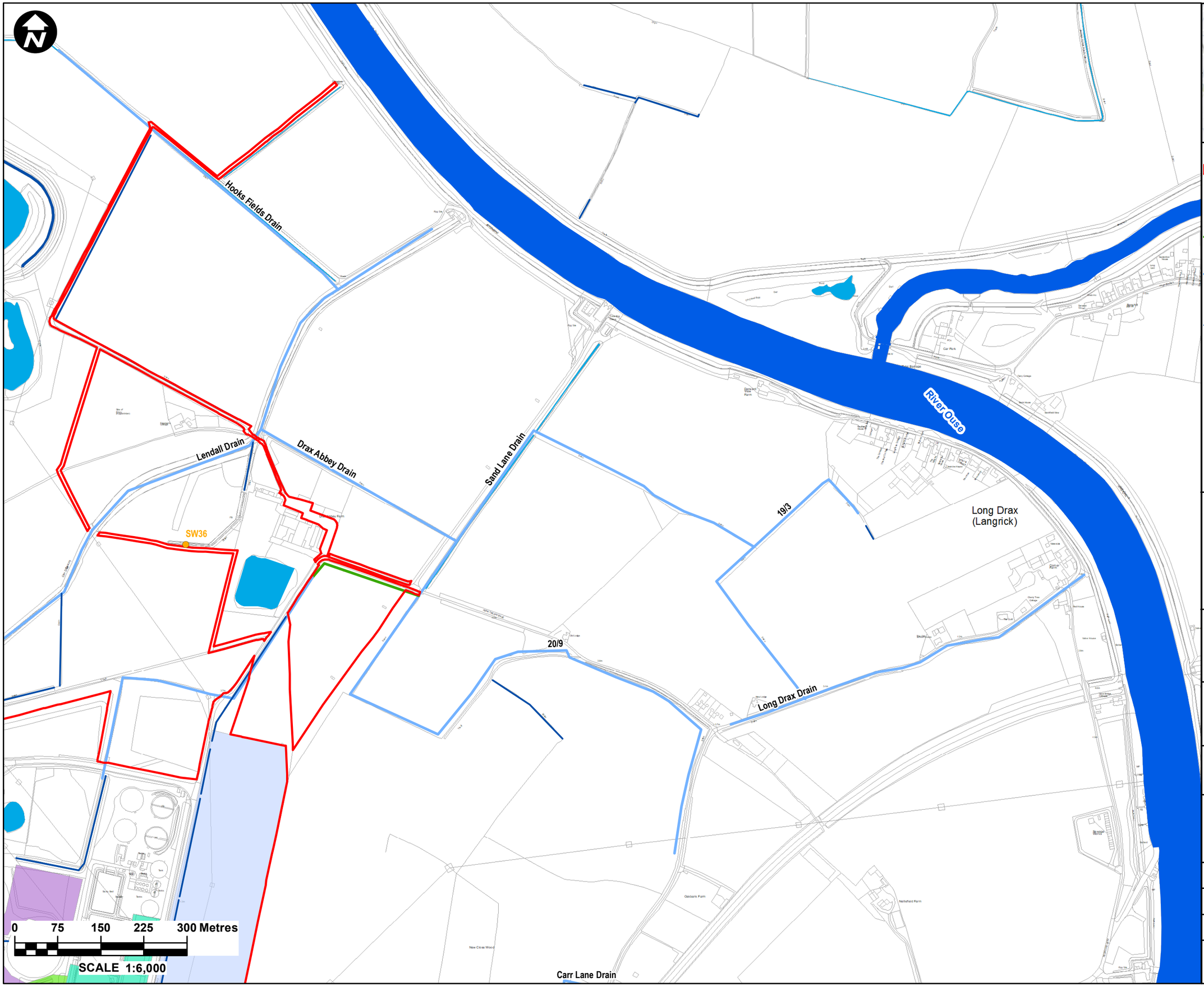
FOR ISSUE

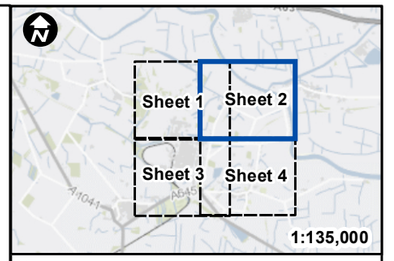
DRAWN	CHECKED	APPROVED	AUTHORISED
LH	BS	ES	LM

SCALE @ A3 SIZE	DATE	REVISION
1:6,000	04/10/2022	P01

DRAWING NUMBER

EN010120-PA-FCA-EC-30





Key:

- Order Limits
- Main Rivers
- Waterbodies
- Surface Water Features
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – culverted section
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – open channel
- Carr Dyke - culverted channel under the responsibility of Drax Power Ltd
- Private / Other Drains

Drax Power Station Site Construction Laydown Area

- Laydown / Fabrication & Local Construction
- Laydown & Light Fabrication
- Laydown & Heavy Fabrication
- Covered Laydown & Fabrication
- Contractor Village
- Car Parking

East Construction Laydown Area

- Light Fabrication / Large Transport receipt / Overflow Car Park

drax

wsp

PROJECT TITLE
DRAX BECCS DCO

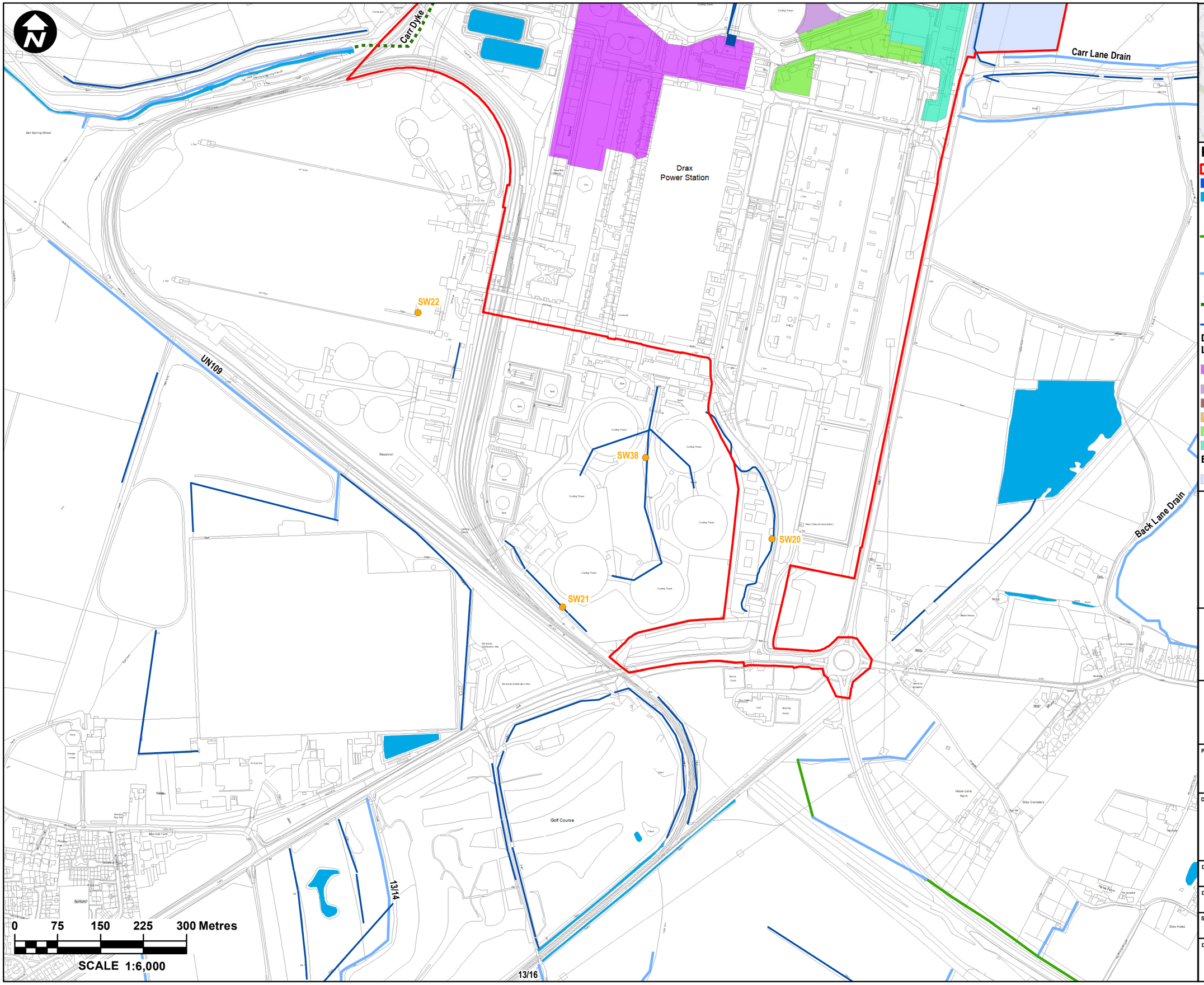
DRAWING TITLE
MAP 2:
ENVIRONMENT AGENCY RELEVANT REPRESENTATIVE COMMENTS - SURFACE WATER FEATURES
SHEET 2 OF 4

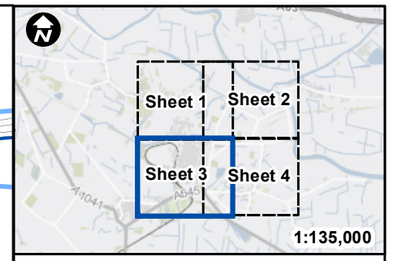
DRAWING STATUS
FOR ISSUE

DRAWN	CHECKED	APPROVED	AUTHORISED
LH	BS	ES	LM

SCALE @ A3 SIZE	DATE	REVISION
1:6,000	04/10/2022	P01

DRAWING NUMBER
EN010120-PA-FCA-EC-30





Key:

- Order Limits
- Main Rivers
- Waterbodies
- Surface Water Features
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – culverted section
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – open channel
- Carr Dyke - culverted channel under the responsibility of Drax Power Ltd
- Private / Other Drains

Drax Power Station Site Construction Laydown Area

- Laydown / Fabrication & Local Construction
- Laydown & Light Fabrication
- Laydown & Heavy Fabrication
- Covered Laydown & Fabrication
- Contractor Village
- Car Parking

East Construction Laydown Area

- Light Fabrication / Large Transport receipt / Overflow Car Park

drax

wsp

PROJECT TITLE

DRAX BECCS DCO

DRAWING TITLE

MAP 2:
ENVIRONMENT AGENCY RELEVANT REPRESENTATIVE COMMENTS - SURFACE WATER FEATURES
SHEET 3 OF 4

DRAWING STATUS

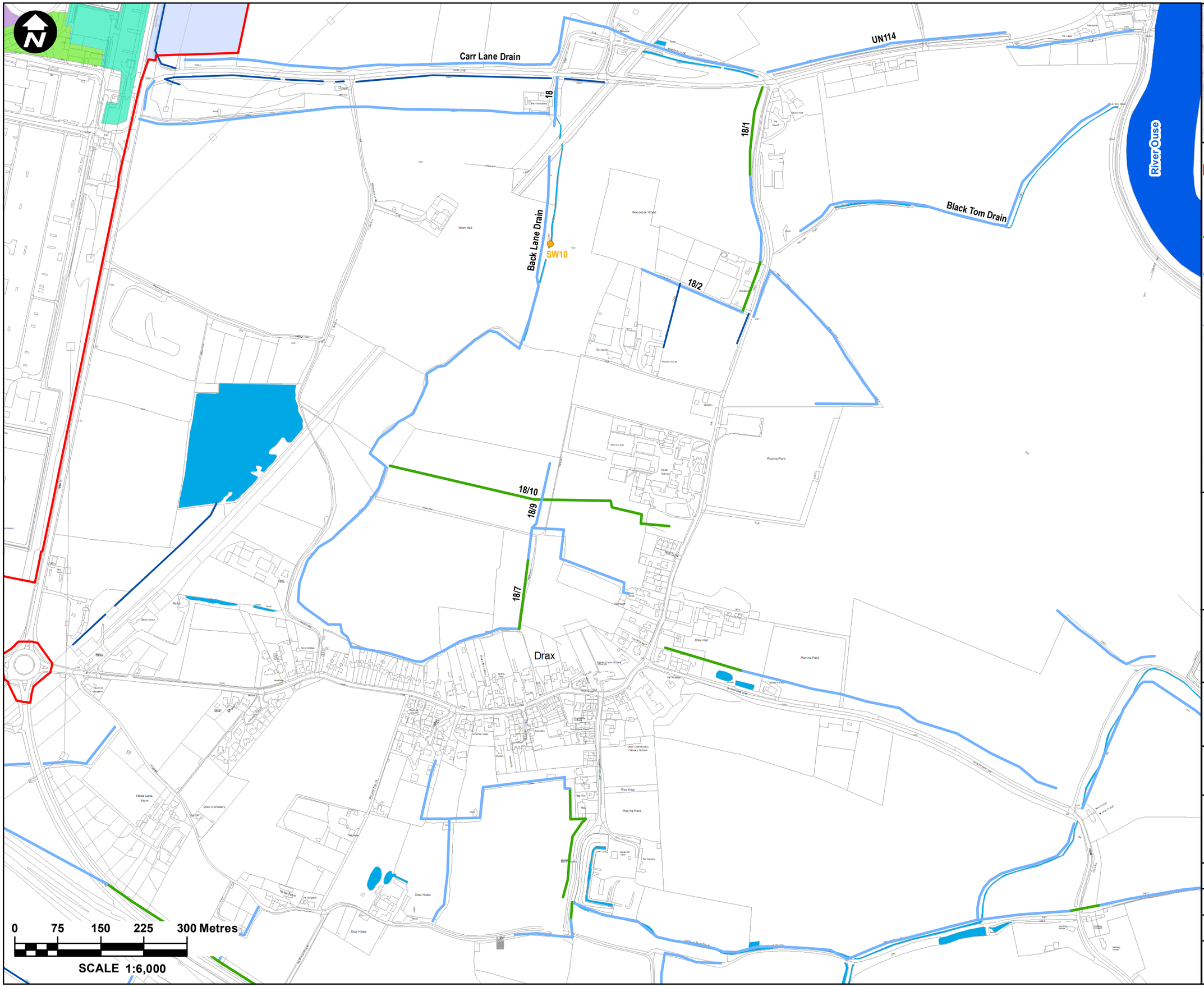
FOR ISSUE

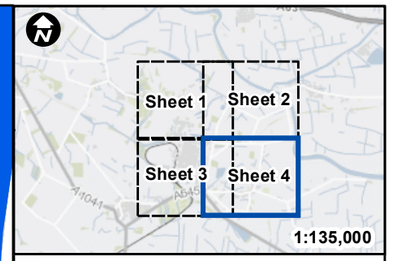
DRAWN	CHECKED	APPROVED	AUTHORISED
LH	BS	ES	LM

SCALE @ A3 SIZE	DATE	REVISION
1:6,000	04/10/2022	P01

DRAWING NUMBER

EN010120-PA-FCA-EC-30





Key:

- Order Limits
- Main Rivers
- Waterbodies
- Surface Water Features
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – culverted section
- Ordinary watercourse under the jurisdiction of the Selby Area IDB – open channel
- Carr Dyke - culverted channel under the responsibility of Drax Power Ltd
- Private / Other Drains

Drax Power Station Site Construction Laydown Area

- Laydown / Fabrication & Local Construction
- Laydown & Light Fabrication
- Laydown & Heavy Fabrication
- Covered Laydown & Fabrication
- Contractor Village
- Car Parking

East Construction Laydown Area

- Light Fabrication / Large Transport receipt / Overflow Car Park

drax

wsp

PROJECT TITLE
DRAX BECCS DCO

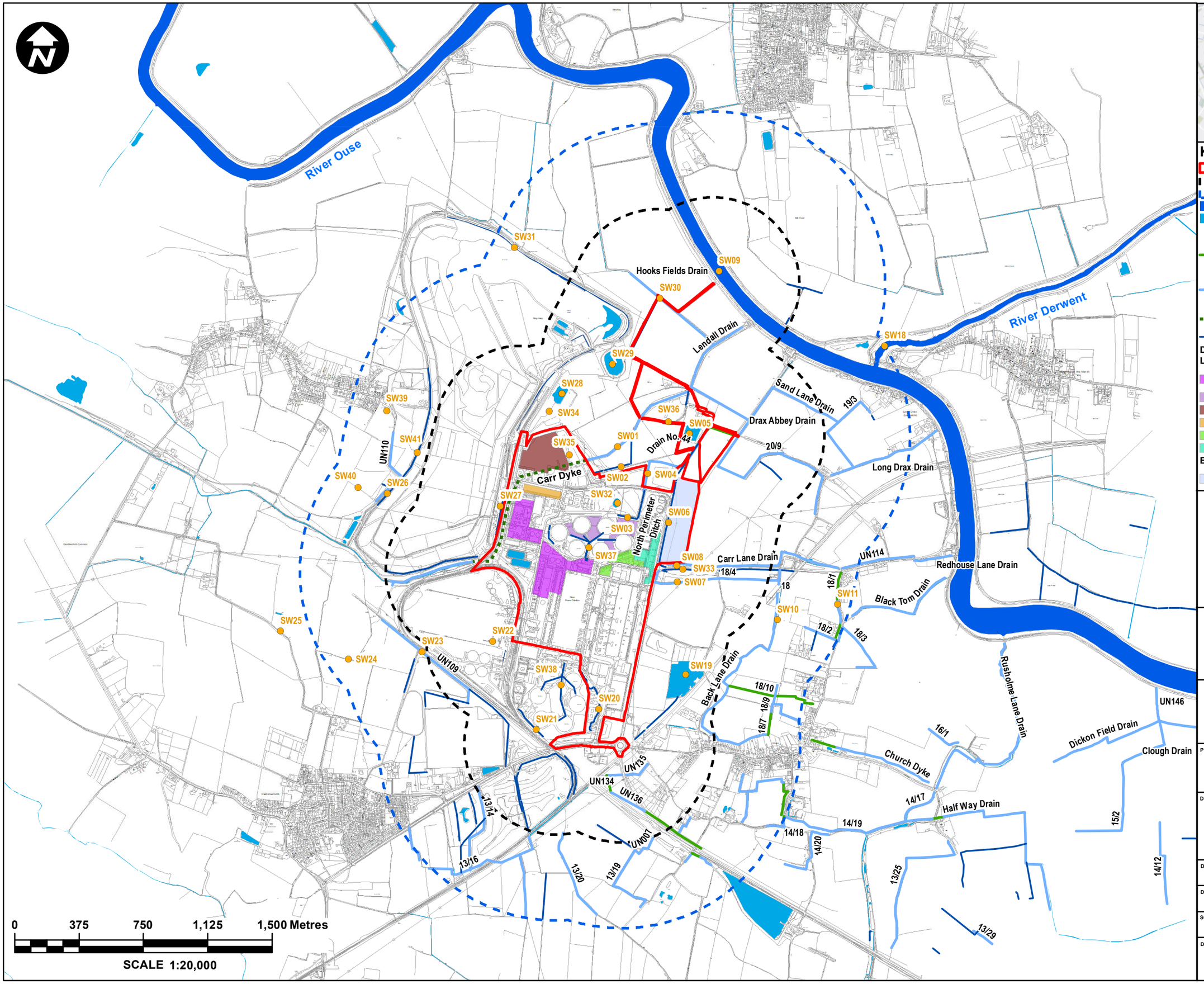
DRAWING TITLE
MAP 2:
ENVIRONMENT AGENCY RELEVANT REPRESENTATIVE COMMENTS - SURFACE WATER FEATURES
SHEET 4 OF 4

DRAWING STATUS
FOR ISSUE

DRAWN	CHECKED	APPROVED	AUTHORISED
LH	BS	ES	LM

SCALE @ A3 SIZE	DATE	REVISION
1:6,000	04/10/2022	P01

DRAWING NUMBER
EN010120-PA-FCA-EC-30



PROJECT TITLE
DRAX BECCS DCO

DRAWING TITLE
MAP 3:
SURFACE WATER FEATURES WITHIN 1KM BUFFER WITH LAYDOWN AREAS

DRAWING STATUS
FOR ISSUE

DRAWN	CHECKED	APPROVED	AUTHORISED
LH	BS	ES	AS

SCALE @ A3 SIZE	DATE	REVISION
1:20,000	04/10/2022	P01

DRAWING NUMBER
EN010120-PA-FCA-EC-31

APPLICANT'S RESPONSES TO RELEVANT REPRESENTATIONS

Appendix B – Modelling Scenarios

Drax Bioenergy with Carbon Capture and Storage

Applicant: Drax Power Limited

REVISION: 01

DATE: November 2022

DOCUMENT OWNER: WSP UK Limited

PUBLIC

APPENDIX B

Two operating scenarios have been modelled for the Proposed Scheme. These are termed ‘Full Load’ and ‘Mid Merit’.

A standard assessment for a power station would be based on the full load operation of the power station both with and without any proposed changes. Since the Proposed Scheme involves fitting CCS to existing generation units, the Full Load operations involve 8760 hours of operation of 4 x units in both the baseline and With Scheme scenarios, with 2 of these units being BECCS units with the Proposed Scheme. This is illustrated in the left section of Figure 1.

With the Proposed Scheme and the relevant Government support mechanism (a Contract For Difference (CFD) which encompasses both power and carbon) in place it is highly likely that the operation of units with CCS will be more economically advantageous than operation of the non-CCS units since support on these current units will cease in 2027 and hence a future full load scenario is considered unlikely and a more intermittent operating regime would more likely result. To ensure a robust, worst-case assessment, a Mid-Merit scenario has been modelled as illustrated in the right-hand section of Figure 1. It involves 4 units (non-CCS) operating for 4000 hours in the baseline without the Proposed Scheme, and with the Proposed Scheme, the 2 x CCS units operating for 8760 hours (4000 h + 4760 h), and the 2 x non-CCS units operating for just 4000 of those 8760 hours.

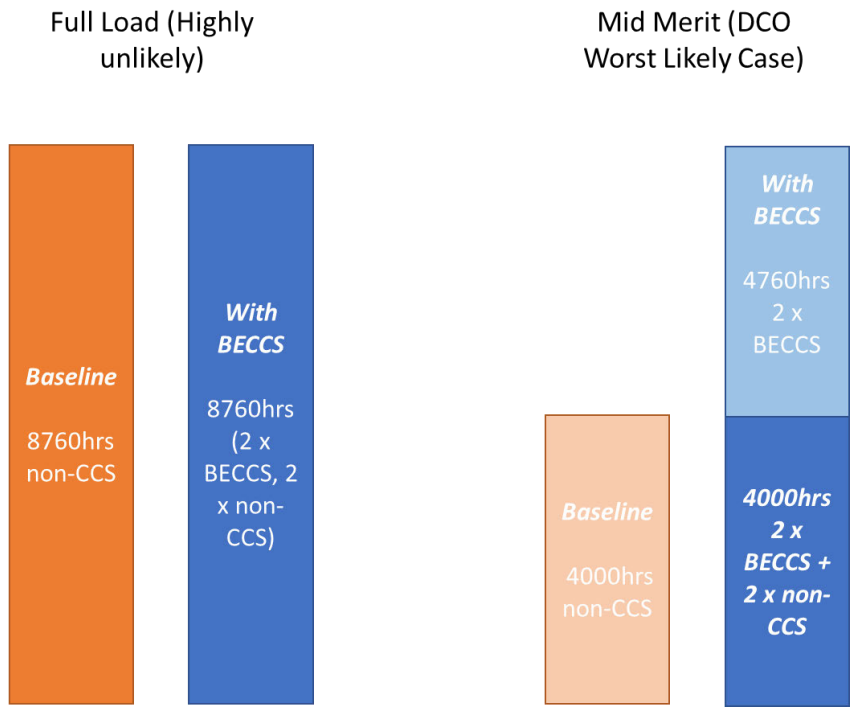


Figure 1. Illustration of modelled operating hours for the 4 x Units in the Full Load and Mid Merit Scenarios

Air Quality Impacts

On a single unit basis, the impacts of the addition of CCS to the units at Drax Power Station is two fold. It results in:

- A reduction in the temperature and volume of the exhaust gas – which reduces the buoyancy of the plume and results in increased ground level concentration,
- A reduction in the mass emission of pollutants (except amines which are not emitted by the conventional biomass units) due to the lower volume of gas emitted after carbon removal which results in a beneficial impact on ground level concentrations.

With an assessment based on Full Load operations, whilst the contribution of the plant to local concentrations of pollutants is maximised in both the Baseline and the With BECCS scenarios, the ***impact*** of BECCS is determined solely by the balance of the beneficial impacts of reduced pollutant concentrations and the adverse impacts of the change plume buoyancy (and a net slight disbenefit). This is illustrated in the left panel of Figure 2.

In the Mid Merit Case, the contribution of the plant to pollutant concentrations is reduced in comparison to the Full Load case, since the units are not all operating continuously in either Baseline or With BECCS scenarios. However, the ***impact*** of BECCS now includes both the plume/emission changes and the impacts of the likely increase in operating hours. This is illustrated in the right panel of Figure 2.

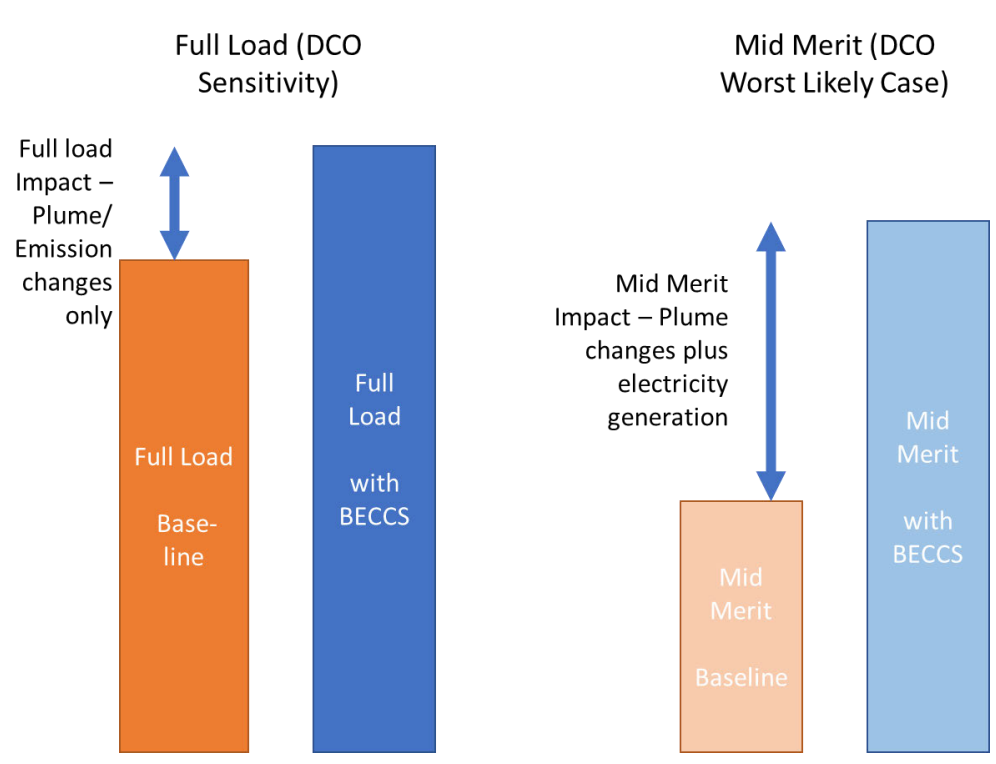


Figure 2. Illustration of modelled air quality impacts for Full Load and Mid Merit Scenarios

Since these two scenarios have been considered in the ES, both the ***absolute worst case <u>total future contributions</u> to pollutant concentrations*** (Full Load) and the ***<u>realistic and worst likely impact</u>*** (Mid-Merit) have been presented and assessed.

Potential Mid-Merit Operations

The Mid Merit scenario has been modelled as:

- Simultaneous operation of 2 x non-CCS units and 2 x CCS units for 4000 hours
- Simultaneous operation of 2 x CCS units for 4760 hours

This has been compared to a baseline with:

- Simultaneous operation of 4 x non-CCS units and 2 x CCS units for 4000 hours

Modelling the Mid-Merit scenario in this way maximises the modelled impact of the Proposed Scheme. This is because it minimises the Baseline impact (with benefits from plume rise associated with operation of 4 units) and maximises the Proposed Scheme impacts (by minimising the plume rise for the 4760 hours of the year during which only the 2 x BECCS units are operating).

It is entirely possible and plausible that the Mid Merit operating hours will be achieved by part time running with 3 units, whether 3 x non-CCS units or, with the Proposed Scheme, 2 x CCS units + 1 x non-CCS units, rather than being constrained to either the 4, 2 or 0 unit operations.

Such operations will lead to a reduction in the modelled impacts for the Mid Merit scenario. This is illustrated in Figure 3.

It must be noted that in the Baseline, moving any of the 4000 hrs for each unit operating from 4 to 3 unit operations (whilst maintaining the total operating hours/electricity production) results in **increased** process contribution at ground level because the buoyancy of the plume is reduced with 3 units in comparison to 4 units. For the with BECCS scenario, if you move from 4 unit operation to 3 unit operation, you must then replace one or more hours of 2 BECCS unit operation with 3 unit operation. Whilst the 4 to 3 unit operation change results in reduced plume buoyancy, the 2 to 3 unit change results in increased plume buoyancy, with the net effect that ground level concentrations decrease slightly. Overall the changes then result in a ***reduced*** impact in comparison to the modelled Mid Merit scenario.

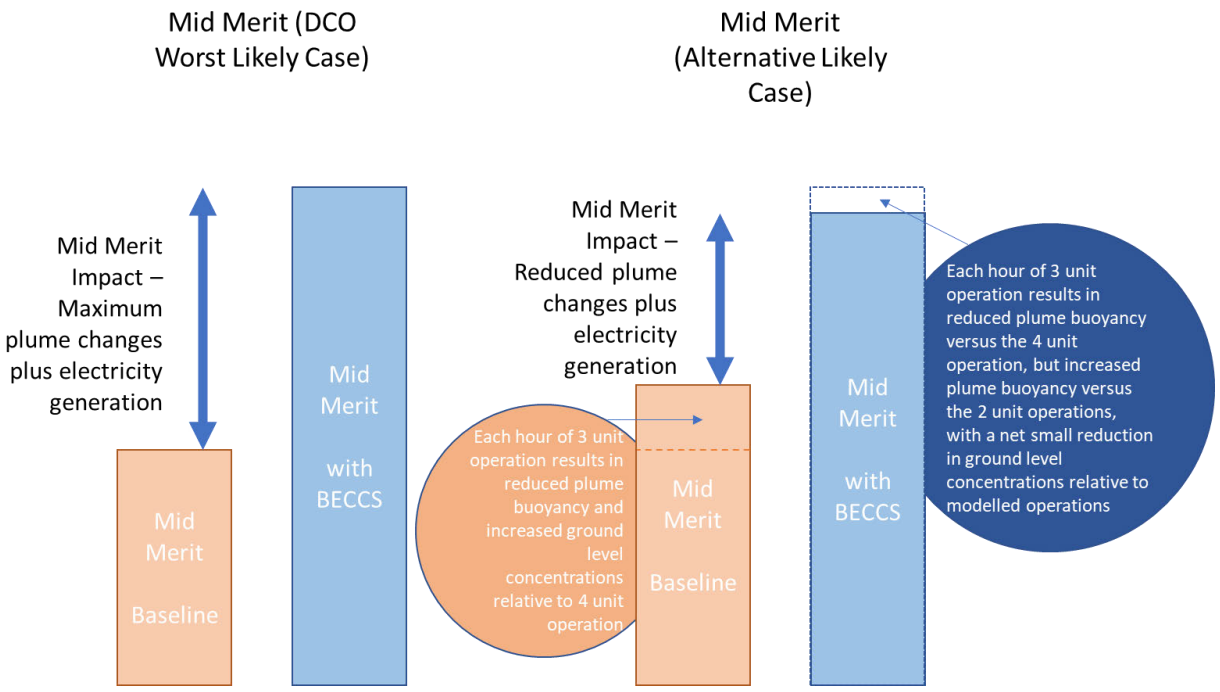


Figure 3. Illustration of modelled air quality impacts for Mid Merit Scenario without 3 unit operations (as modelled for ES, DCO Worst Likely Case) and with part use of 3 unit operations (Alternative Likely Case)

Basis for the Mid Merit Scenario Parameters

The basis for the mid-merit scenario (4000 hours per annum) which represents a load factor of 45.6% for the remaining biomass units (units 3 and 4) is the fact that the units, post 2027, will function as flexible, dispatchable generating capacity. The current subsidy regime which supports the biomass units at Drax Power Station is due to end in 2027 and therefore will likely result in a change in operation and load factor and a likely reduction in load factor.

In terms of additional generating capacity connecting to the grid, a significant amount of that capacity will be non-dispatchable, consisting primarily of wind and solar generating technology (online monitoring data (Statista, 2021) suggests 14GW solar, 25 GW wind). It has become more evident through recent periods that although there have been periods of significant generation from wind and solar technology; the need for conventional, dispatchable plant has not diminished and that constraints in utilising the electricity generated by, primarily wind, remain. This leads to a scenario where flexible, dispatchable and ideally low-carbon generating capacity will still be required to operate over the short and medium term as investment and construction of additional grid infrastructure takes place.

Considering the developments and impacts which the energy sector has experienced over the past 12 months, forecasting the operation of plant and the development of the energy sector will inevitably result in numerous assumptions and caveats. However, the premise that flexible, dispatchable plant will continue to be required is a reasonable assumption to make and that this type of capacity will likely be required during periods when demand is high and when non-dispatchable is not generating or indeed when generation may be curtailed. If we assume that the BECCS units are operational with a load factor of 100% and that the remaining biomass units operate within a mid-merit operational regime, then this is considered to be as reasonable a scenario as any to base the assessments on.

In terms of future changes to the way in which the generating capacity may be dispatched, the biomass units without BECCS could enter the capacity market regime post 2027 which provides OPEX support for generators and guarantees availability of capacity to National Grid. However, this would not fundamentally change the order in which conventional plant would be dispatched or the merit order in which the biomass units would sit and neither would it change the operational hours of the units.

APPLICANT'S RESPONSES TO RELEVANT REPRESENTATIONS

Appendix C – Responsible Sourcing

Drax Bioenergy with Carbon Capture and Storage

Applicant: Drax Power Limited

REVISION: 01

DATE: November 2022

DOCUMENT OWNER: Drax Power Limited

PUBLIC

17 October 2019

CHAPTER 1:

Responsible Sourcing

Sustainably sourced forest biomass is at the heart of our purpose: *Enabling a zero carbon, lower cost energy future.*

In transforming two-thirds of Drax Power Station to use forest biomass instead of coal, we are playing a crucial role in decarbonising the UK's energy system.

By supplying the country with flexible, affordable and renewable power now and [redacted] with bioenergy carbon capture and storage (BECCS), Drax is at the [redacted] central to a net zero UK by 2050. Today, we produce enough renewable electricity to power four million homes using biomass – more than any other power generator in the country.

[redacted] our sustainably-sourced forest biomass can do more to accelerate the decarbonisation of the UK's economy and put the country at the global vanguard of the technology needed to combat the climate change crisis.

[redacted] technology, we want to become the world's first carbon negative power station. This will place the UK at the centre of global efforts to develop [redacted] technology at scale. The Intergovernmental Panel on Climate Change (IPCC) and the UK Committee on Climate Change (CCC) have recognised these steps which as [redacted] meeting the UK's Paris Agreement commitments.

Sustainably sourced forest biomass is at the heart of our purpose: Enabling a zero carbon, lower cost energy future.

Today, we produce enough renewable electricity to power four million homes – more than any other power generator in the UK.

The benefits of forest biomass

At Drax we use sustainably-sourced wood pellets from working forests, primarily in the US South but also in Europe, Canada and South America, to generate low-carbon, renewable electricity.

Biomass delivers both a decarbonised economy and healthy forests.

Managed forests can absorb more carbon:

- [redacted] than forests that are left untouched: increasing sustainable harvesting can lead to more investment in woodland, better growth, greater carbon storage and stronger communities.

Healthy demand for wood contributes to growing forests:

- Drax sources wood from [redacted], contributing to increasing forest growth locally and regionally.

Surplus growth has quadrupled in the US South:

- Over the last 25 years, the US South has not only increased its total wood supply, but the surplus annual growth each year [redacted].

APPLICANT'S RESPONSES TO RELEVANT REPRESENTATIONS

Appendix D – Commitment to UK Supply Chain

Drax Bioenergy with Carbon Capture and Storage

Applicant: Drax Power Limited

REVISION: 01

DATE: November 2022

DOCUMENT OWNER: Drax Power Limited

PUBLIC

Drax announces 80% British supply chain ambition to support construction of world's largest carbon capture project

Renewable energy pioneer reaffirms its commitment to UK supply chain with ambition to domestically source 80% of construction materials and services for its climate-saving negative emissions technology bioenergy with carbon capture and storage (BECCS).

23 September 2021

- BECCS at Drax could mean British companies benefit from supply contracts worth hundreds of millions of pounds, protecting and creating over 10,000 jobs across the Humber, developing green skills, and helping level up the North.
- Announcement made as Drax launches series of nationwide supplier events for UK businesses to get involved in

delivering this vital multi-billion-pound project in the 2020s.

Renewable energy company Drax has announced that it aims to source 80% of the construction materials and services needed to deliver its climate saving negative emissions

The 80% ambition includes all construction materials needed as part of the deployment of the multi-billion-pound project such as steel, pipes, heat pumps, electricals, and insulation, as well as the support services involved in delivering such a large project.

In doing so, BECCS at Drax has the potential to deliver hundreds of millions of pounds worth of contracts for British businesses. As well as this, BECCS will protect and create over 10,000 jobs across the Humber, decarbonising one of the UK's most carbon intensive regions as part of the East Coast Cluster, whilst developing green skills, kickstarting new industries and helping level up the North.

Will Gardiner, Drax Group CEO, said:

"BECCS will play a vital role in enabling the UK to reach its legally binding net zero target, as well as saving the energy system billions of pounds in the process.

"Our ambition is to put the UK supply chain at the heart of delivering this crucial climate saving technology and by doing so we'll create and protect thousands of new jobs, kickstart new industries and help level up the UK."

The announcement comes as Drax launches the first in a series of nationwide supplier events. Run in partnership with the West & North Yorkshire and Hull & Humber Chambers of Commerce, and organised by business support organisation NOF, the event series will enable new and prospective suppliers to learn more about the BECCS project, as well as how they can be involved in delivering this vital negative emissions technology.

Drax has a proven track record in delivering ambitious and pioneering infrastructure projects – the conversion of its power station in North Yorkshire to use sustainable biomass instead of coal has enabled it to become the UK's largest single site renewable generator, reducing its emissions by over 90% and paving the way for the deployment of BECCS.

A formal public consultation on Drax's BECCS plans will take place in November, when stakeholders including local communities will be able to learn more about the proposed project and provide their feedback as part of the planning process.

Work to build BECCS at Drax could get underway as soon as 2024, with the first BECCS unit operational in 2027 and a second in 2030, delivering the world's largest carbon capture in power project and making a signification contribution to the UK's decarbonisation targets.

Businesses interested in finding out more about Drax's plans and attending its nationwide supplier event series, taking place throughout 2022, can email Drax@NOF.co.uk.

ENDS

Media contacts

Ben Wicks
Drax Group Media Manager
[redacted]

Editor’s Notes

- 80% domestic supply chain figure includes materials and services to be used within the construction for Drax’s BECCS project, however, this does not include the carbon capture technology to be delivered by Drax’s technology partner Mitsubishi Heavy Industries.
- Leading climate scientists at the UN’s IPCC and UK Climate Change Committee have said that the world cannot address the climate crisis without negative emissions from technologies like BECCS, which permanently remove carbon dioxide from the atmosphere.
- Work to build BECCS at Drax could get underway as soon as 2024, with the creation of thousands of jobs.
- Subject to the right regulatory support, the first BECCS unit could be operational in 2027, with the second commissioned in 2030, enabling Drax to achieve its world-leading ambition to be a carbon negative company by 2030.
- Analysis by [redacted] shows BECCS at Drax will save the UK £13bn in achieving the government’s legally binding fifth Carbon Budget.
-

About Drax

Drax Group’s purpose is to enable a zero carbon, lower cost energy future and in 2019 announced a world-leading ambition to be carbon negative by 2030, using Bioenergy with Carbon Capture and Storage (BECCS) technology.

Its 3,400 employees operate across three principal areas of activity – electricity generation, electricity sales to business customers and compressed wood pellet production and supply to third parties.

Power generation

Drax owns and operates a portfolio of renewable electricity generation assets in England and Scotland. The assets include the UK’s largest power station, based at Selby, North Yorkshire,

which supplies five percent of the country's electricity needs.

Having converted Drax Power Station to use sustainable biomass instead of coal it has become the UK's biggest renewable power generator and the largest decarbonisation project in Europe. It is also where Drax is piloting the groundbreaking negative emissions technology BECCS within its CCUS (Carbon Capture Utilisation and Storage) Incubation Area.

Its pumped storage, hydro and energy from waste assets in Scotland include Cruachan Power Station – a flexible pumped storage facility within the hollowed-out mountain Ben Cruachan.

Pellet production and supply

Drax owns and has interests in 17 pellet mills in the US South and Western Canada which have the capacity to manufacture 4.9 million tonnes of compressed wood pellets (biomass) a year. The pellets are produced using materials sourced from sustainably managed working forests and are supplied to third party customers in Europe and Asia for the generation of renewable power.

Drax's pellet mills supply around 30% of the biomass used at its own power station in North Yorkshire, England to generate flexible, renewable power for the UK's homes and businesses.

Customers

Drax is the largest supplier of renewable electricity to UK businesses, supplying 100% renewable electricity as standard to more than 370,000 sites through Drax and Opus Energy.

It offers a range of energy-related services including energy optimisation, as well as electric vehicle strategy and management.

To find out more go to the website [redacted]

APPLICANT'S RESPONSES TO RELEVANT REPRESENTATIONS

Appendix E – Sourcing Sustainable Biomass

Drax Bioenergy with Carbon Capture and Storage

Applicant: Drax Power Limited

REVISION: 01

DATE: November 2022

DOCUMENT OWNER: Drax Power Limited

PUBLIC

Sourcing sustainable biomass

Evidencing that our sourcing delivers beneficial climate outcomes, promotes sustainable management, protects the environment, and supports people and communities.

Forest Positive Approach

At Drax we use wood pellets sourced from sustainably managed working forests and residues from forest industries to generate low-carbon, renewable electricity. Our forest positive approach to sourcing sustainable biomass is made up of the following elements:

- Sourcing sustainable biomass
- [redacted]
- Healthy Forest Landscapes
- [redacted]

We ensure our biomass is sustainable and compliant with relevant legislation through Sustainable Biomass Program (SBP) certification, alongside proactive supplier engagement, other third-party certification [redacted] in biomass supplier contracts.

Our Biomass Sustainability Requirements

We adhere to the UK Government criteria for sustainable biomass, the Forest Europe Sustainable Forest Management criteria and we comply with the European Union Timber Regulation (EUTR).

- **Group sustainability policy** – in place since 2008, our policy covers our core sustainability values on protecting biodiversity, reduction of greenhouse gas emissions and contribution to social values.
- **UK Government criteria for sustainable biomass** – we report monthly on compliance with the UK sustainability criteria, including life cycle emissions limits and the land criteria. This covers the requirements of the Forest Europe Sustainable Forest Management criteria, including: maintaining forest area and carbon stocks; encouraging the production of forest products; maintaining the health and vitality of the forest ecosystem; conserving and enhancing biological diversity; contributing socio-economic benefits; and ensuring that soil and water protection is maintained.
- **European Union Timber Regulation** – in place since 2013, the EUTR requires purchasers of wood products to have coherent due diligence processes in place to minimise the risk of trading illegally logged timber.

Responsible Sourcing Policy for Biomass

Further to our Group Sustainability Policy, our Responsible Sourcing Policy for Biomass outlines our forest biomass sustainability commitments. The policy strengthens our approach in line with recommendations made by a report commissioned by the European Climate Foundation. This is to provide further assurance that the sustainable biomass we source makes a net positive contribution to climate change, protects and enhances biodiversity and has a positive social impact on local communities.

Our forest biomass sustainability commitments:

1. **We will reduce carbon dioxide emissions**

We are committed to ensuring our use of biomass makes a positive contribution to tackling climate change and fulfilling the UK's net zero by 2050 target.

2. **We will protect the natural environment**

We recognise our duty to keep forests thriving and to respect the many benefits they bring, including carbon storage, protection of soil and water quality, supporting biodiversity and provision of habitat.

3. **We will support people and communities**

From state-owned forests to smallholdings, and from the US southeast to the Baltic states, forest owners, forest workers and communities in our sourcing areas are bound by their common reliance on forests for employment, wellbeing and quality of life.

4. **We will invest in research, outreach and intervention**

The strength of our collaboration with others will improve the sourcing choices we make. We are committed to working with governments, non-governmental organisations, academia and other stakeholders to continually improve biomass sourcing and develop best practice.

Due Diligence

Supplier compliance with our policies and appropriate legislation is evidenced by Sustainable Biomass Program (SBP) certification, a certification system for woody biomass, or by our own checks and third-party audits. We require suppliers to progress from our own checks and third-party audits commissioned by Drax, towards SBP certification. In 2020, 99% of the woody biomass we sourced was SBP compliant.

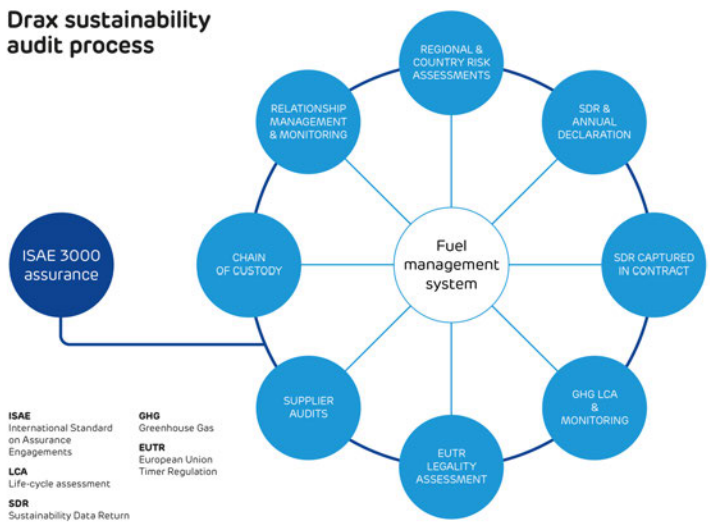
Governance

The Group Director of Corporate Affairs has overall responsibility for delivering Drax Group's sustainability performance and ensuring biomass meets the Government's sustainability criteria. Cases requiring special attention are escalated to the Group Ethics and Business Conduct Committee (EBCC) or the Executive Committee. The Independent Advisory Board on Sustainable Biomass [link

[redacted] established in 2019 provides advice on sustainable biomass and its role in Drax's transition to net zero emissions.

No concerns regarding biomass supplier sustainability compliance were raised or escalated to the EBCC or the Executive Committee in 2020.

Due Diligence Process



Drax has developed a rigorous process to ensure that new and existing biomass suppliers demonstrate that all necessary sustainability and legal requirements are met. Our eight key stages for ensuring compliance are: chain of custody; supplier audits; the EUTR legality assessment; GHG life cycle assessment and monitoring; the sustainability data return (SDR) captured in the contract; the SDR and annual declaration; regional and country risk assessments; and supplier relationship management and monitoring. These stages are implemented in an ongoing cycle to provide robust evidence across each element.

Our due diligence process always begins with a regional risk assessment, which identifies high-level risks such as deforestation or illegal logging, corruption and issues with workers' rights. This ensures that we focus on these high risks and how they are being mitigated. These reports are renewed every three years, or more frequently if there are causes for concern, to ensure that we always stay on top of developing issues.

This is followed by the SDR, where we ask the supplier 43 detailed questions about all aspects of their supply chain and to provide documentary evidence to support their answers. This sustainability declaration subsequently forms part of the contract between Drax and the supplier.

Third-Party Audits

Each new supplier is subject to an independent audit commissioned by Drax before pellets can be delivered. Existing suppliers are audited at least once every three to four years. The audit requires the supplier to pass a series of detailed environmental and social checks along the whole length of their supply chain and pellet manufacturing process. Findings are categorised as high, medium or low priority.

High-priority findings can result in termination of a supplier agreement. Medium-priority findings result in the supplier being given a deadline for rectifying them. Low-priority issues highlight areas where our independent auditors believe there is scope for the supplier to improve their practices. Drax engages with our suppliers to share best practice and support and encourage improvements to procedures.

The Sustainable Biomass Program

Suppliers can evidence the necessary sustainability requirements through [redacted] (SBP) certification, a certification system for woody biomass.

SBP-certified material has been benchmarked by Ofgem to fully meet the UK sustainability requirements. We encourage our suppliers to progress from our own checks and third-party audits commissioned by Drax towards SBP certification. In 2020, 99% of the woody biomass we sourced was SBP compliant.

[redacted]

Forest Management Certification

In addition to our own checks, third-party audits commissioned by Drax and SBP certification, sustainability can also be demonstrated through the Forest Stewardship Council® (FSC®) – Drax FSC License Code: FSC-C119787 – and PEFC's Forest Management (FM) certification. These schemes are global not-for-profit organisations dedicated to the promotion of responsible forest management worldwide. FM certification process confirms that the forest is being managed in a way that preserves the natural ecosystem and benefits the lives of local people and workers, while ensuring that it sustains economic viability.

FM certification may be difficult to achieve for some types of forest owners and, for this reason, a secondary level of FSC certification called Controlled Wood is available. This ensures that wood fibre is not: illegally harvested; harvested in violation of traditional and human rights; harvested in forests in which high conservation values are threatened by management activities; harvested in forests being converted to plantations or non-forest use; or from forests in which genetically modified trees are planted.

[redacted]

Chain of Custody

Once certified, Chain of Custody can be used as a mechanism for tracking wood fibre from the forest to the final product and destination. Each supplier in the chain must have a documented system that enables the supplier to demonstrate that the wood fibre has been identified and separated from non-certified and non-controlled wood at each stage in the supply chain. Drax requires that all of its suppliers achieve Chain of Custody certification before contracts are signed and pellets can be delivered.

At Drax, our key biomass buyers, logistics, legal and communications colleagues are required to complete Chain of Custody training with the sustainability team.

Supplier Engagement

Drax operates a proactive supplier engagement programme to develop closer relationships with all biomass suppliers on sustainability issues. Our approach includes regular site visits to improve overall performance by identifying any potential risks, understanding constraints and capacity, monitoring audit findings and corrective actions, carrying out training and providing resources as required.

Biomass Sources in 2020

Biomass supply chain transparency is a key element of our forest positive approach and we provide further detailed supply chain information at Drax ForestScope [redacted].

We respond annually to the CDP Forests questionnaire and achieved a rating of B in 2020.

In 2020 our biomass was sourced from established, responsibly managed working forests in the US South, Europe, Canada, Brazil and Russia.

Country	Sawmill and other wood industry residues (t)	Branches and tops (t)	Thinnings (t)	Low grade roundwood (t)	Arboricultural residues (t)	Agricultural residues (t)	Country total (t)
USA	1,675,929	92,934	1,117,795	1,768,873	–	2,4871	**4,680,402**
Canada	1,021,444	99,233	1,3163	95,267	–	–	**1,229,107**
Latvia	206,468	–	7,922	453,621	–	–	**668,011**
Portugal	1,2830	4,672	31,530	99,015	470	–	**148,516**
Brazil	–	–	–	141274	–	–	**141,274**
Belarus	10,6734	–	–	2223	–	–	**108,957**

Country	Sawmill and other wood industry residues (t)	Branches and tops (t)	Thinnings (t)	Low grade roundwood (t)	Arboricultural residues (t)	Agricultural residues (t)	Country total (t)
Russia	592	–	–	–	–	8,5301	**85,893**
Estonia	2,9997	–	10,203	45200	–	–	**85,399**
Lithuania	6,7161	–	1,019	14952	–	–	**83,132**
UK	–	–	–	–	–	70,086	**70,086**
Other European	1,6357	–	–	738	–	5,6424	**73,520**
Total	313,7511	196,839	118,1631	262,1163	470	236,682	**7,374,296**

Biomass Supply Chain Emissions

Biomass can only be considered a low carbon, renewable energy solution when it can be evidenced that greenhouse gas (GHG) emissions savings are delivered on a lifecycle basis, compared to alternatives such as fossil fuel generation. We therefore collect fuel and energy data for each step in the supply chain, enabling us to calculate lifecycle GHG emissions for our biomass and to demonstrate compliance with our regulatory requirements.

Every supplier is required to give detailed information on what type of fibre is used to make wood pellets along with full details of their sources, the distances and vehicle types involved in their production, the production process itself, data about fuel and energy usage, plus any sea freight data (including what type of vessel was used, over which route, and over what distance). GHG emissions are affected by a wide range of factors including cultivation, harvesting and transportation. The majority of our pellets are shipped to the UK from North America. The most significant GHG impacts in the biomass supply chain are the electricity used in pelletisation and the sea freight emissions in transport.

The impact of shipping emissions is determined by both distance and vessel size. For longer distances (e.g. from North America) it is essential to use large-scale vessels capable of transporting more than 40,000 tonnes of wood pellets (sometimes up to 60,000 tonnes); this significantly reduces the emissions per tonne of wood pellets. Within

Europe, shipping distances are much shorter and therefore smaller vessels can be utilised, which allows vessels to access small ports that can reduce inland transportation.

Drax uses specially designed rail wagons to transport the biomass pellets direct from port to the power station. This is dramatically more carbon efficient than road transport. Pellet mills are ideally located close to the forest resource and close to ports in order to minimise inland transport emissions.

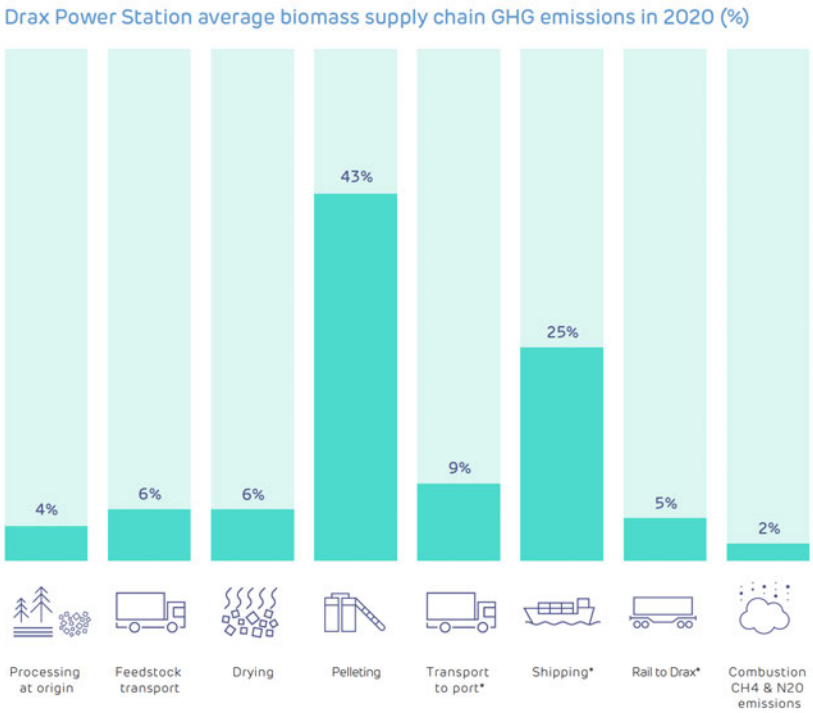
The UK Government has set a limit on biomass supply chain GHG emissions, which must be met by generators to be eligible for support under the Renewables Obligation and Contract for Difference schemes. The current limit is 200 kgCO2e/ MWh of electricity. In 2020, our average biomass supply chain GHG emissions amounted to 109 kgCO2e/MWh of electricity.

Our [redacted] is a GHG lifecycle emission tool designed to improve the accuracy and transparency of reporting emissions for wood pellet supply chains. The calculator has been externally verified against UK and EU regulations. It includes all material sources of GHG emissions, including categories absent from other UK reporting tools, such as methane and nitrous oxide emissions arising from fuel combustion. Drax is committed to taking a leading role in the lifecycle emissions reporting of biomass, and we are providing the calculator for open use to facilitate improved reporting standards across the industry.

	Unit	2020	2019	2018	2017	2016
Average biomass supply chain GHG emissions	$kgCO_2$ e/MWh	**109***	124	131	130	122

* Limited external assurance by Bureau Veritas using the assurance standard ISAE 3000. For assurance statement

[redacted]



Note: includes the biomass supply chain emissions associated with both Drax's direct operations (Pellet Production business) and third parties.
* These categories are aggregated in our Biomass Carbon Calculator and the proportion of emissions assigned to transport to port, shipping and rail to Drax has been estimated.