Level 5,
10 Dominion Street
London EC2M 2EF
Tel: 020 7417 5200
Fax: 020 7417 5222
Email:
info@corygroup.co.uk
www.corygroup.co.uk

[redacted]
Examining Authority
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol, BS1 6PN

Our Ref: CDP/EX/11

5 February 2025

Dear [redacted],

EN010128: APPLICATION BY CORY ENVIRONMENTAL HOLDINGS LIMITED FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE CORY DECARBONISATION PROJECT – FOLLOW ON FROM RESPONSE TO RULE 17 REQUESTS

In my letter on behalf of the Applicant of 29 January 2025 (AS-055), responding to your Rule 17 request in respect of matters relating to Landsul and Munster Joinery, I indicated that by today's date, the Applicant would set out the principles of its response to the agreed 'List of Issues' between the parties set out in that letter, so that the ExA, and Landsul/Munster Joinery, are aware of the principles of the Applicant's position on the below issues prior to CAH2. It is hoped that this will aid the efficiency of the discussion at CAH2.

In the table overleaf, the Applicant has done this. The Applicant will expand on these principles at CAH2 (noting that the List of Issues is relevant to the CAH2 agenda matters listed under agenda item 4.5, and further in its written Deadline 4 submssions, in response to Landsul/Munster Joinery's Deadline 3 submissions.

If you have any further questions, please do not hesitate to contact me or the project team. I can confirm that a copy of this correspondence has been sent to Landsul/Munster Joinery, as requested by the ExA.

Yours sincerely,

[redacted]

[redacted]
Project Director
Email: decarbonisation@corygroup.co.uk
Phone: [redacted]

Principles of Applicant's Position on List of Issues

Issue	Principles of Applicant's Position
Whether Dr Edgar's Alternative Layout is a feasible alternative	The Alternative Layout is not considered a feasible alternative for the following reasons: <u>Plot Area Size</u> • The Applicant has analysed the plot areas of individual process areas in Landsul/Munster Joinery's Alternative Site Layout and compared against the equivalent plot areas in the Applicant's Indicative Layout. • From this analysis, it is clear that for a number of the plant areas where Landsul/Munster Joinery have stated that they agree with the footprint area included in the Applicant's Indicative Layout, the Alternative Site Layout includes a reduced footprint area. • The Applicant considers that Dr Edgar has not provided evidence to demonstrate that Landsul/Munster Joinery's Alternative Site Layout takes full account of all space requirements that are necessary for the proper operation of Carbon Capture Plant, such as access for maintenance, or auxiliary equipment. • Therefore, the Applicant considers that Landsul/Munster Joinery's Alternative Site Layout does not represent a valid, like-for-like alternative arrangement of the necessary equipment items, buildings and supporting infrastructure necessary for the safe and efficient operation of the Carbon Capture Facility. Dr Edgar's Figure 7 suggests the second biggest 'reduction' is 'General Layout Efficiencies' – these are not explained, which is particularly relevant in the above context. <u>Constraints</u> • The TWUL Access Road needs to be taken into account. Initial swept path analysis by the Applicant indicates that two-way movements would require the layout of the building adjacent to the access road in the Alternative Layout to be changed. • The Applicant understands that in any event, TWUL consider that a straight road is necessary for the vehicle movements which utilise the road (and advised the Applicant as such when it brought forward its previous data centre proposals at this location). • The Alternative Site Layout does not account for the environmental constraints discussed in the next item in the List. Figure 7 indicates Dr Edgar's biggest saving in space comes from 'planting'; but it is not clear what is meant by that term, given, for

	example there is no reference to managing impacts to watercourses and the areas where reduction is made are in the areas of watercourses, not just planting. <u>Infrastructure Requirements</u> • As discussed in relation to carbon storage below, the Applicant considers that it is not possible to determine at this point that only 3 storage tanks are required. • The Applicant's position is that it requires the electrical infrastructure set out in its layout, which the Alternative Site Layout does not account for. • The Alternative Site Layout assumes that the water management area can be located under the operational compound. This is incorrect as the area is a 'water management area'. Whilst this is currently assumed to be a tank, it may be surface water attenuation ponds and/or surface water run off holding tanks, which may be required to contain spills and firewater in the event of an incident on the Site to ensure that potentially contaminated runoff is not discharged off-site. • Figure 7 suggests some savings from 'Heat Transfer Station Layout Efficiency' without explaining what this means. In any event, the Applicant notes that its indicative layout assumes a 100MW sized heat transfer station. As the design progresses, it is becoming clearer that in fact more than 100MW is likely to be able to be captured for export – a constraint should not be imposed on the ability for policy supported heat capture and export to be optimised to the extent practicable.
The approach to managing environmental impacts in the Alternative Layout	The Applicant's layout is the result of an integrated multi-disciplinary design process, as set out in the DAD (APP-044 to APP-046) and as shown on the Contextual Indicative Site Layout Drawing (REP2-021). In particular, the Applicant's layout and land requirements have accounted for the offsets required from watercourses (for ecological, water quality and flood reasons), as well as providing for landscaping planting. The Alternative Site Layout does not provide for this; in particular, some aspects of that layout are on top of, or adjacent to, watercourses which would not be accepted by the LLFA/EA.

	The red areas to the west of Dr Edgar's Figure 1 at Deadline 3 are unusable because of the safety requirements in relation to the CO2 storage areas, although it is noted that the Alternative Site Layout excludes these areas in any event.
The approach to the space requirements for the carbon storage tanks to provide the agreed buffer storage capacity.	The storage area has been sized on the basis of providing capacity for a ship's load of carbon dioxide plus a buffer. There is a range of options available for providing this total volume of storage, including spherical storage vessels, vertically oriented cylindrical tanks or horizontally oriented cylindrical tanks of varying size and varying number to provide the same total storage volume. In all cases, the storage of the carbon dioxide would require a quantitative risk assessment process to be undertaken. This could lead to a variety of conclusions that would be taken into account in the detailed design of the Proposed Scheme. It would not be appropriate to decide now that 3 storage tanks should be the only basis of design, if this was ultimately found to be unsafe at detailed design. As acknowledged by Dr Edgar, there are a number of different risks to be balanced, and imposing a constraint to a specific location and number of storage tanks would have the potential to leave the Proposed Scheme unimplementable. The Applicant remains concerned about the risks of having an operational business in the middle of the Carbon Capture Facility site, adjacent to stored carbon dioxide. Whilst a detailed risk assessment would need to be undertaken, clearly it is inherently riskier to have a party so near to the risk, rather than not there at all. Furthermore, the measures Landsul/Munster Joinery would need to do to make the risk ALARP are currently unknown, but could have an impact on how their business is carried out. Finally, given the riverside location of the Proposed Scheme and the Government's focus on enabling Non-Pipeline Transport of carbon, the Applicant also considers that it should also not be artificially limited to vessels that facilitate only 24,000 m^3 of storage, where perhaps a different tonnage level (of carbon processed through the area at any given time, but in the context of available shipping movements) might be required to be accommodated by the Proposed Scheme and flexibility at the final design stage will be needed. This is in the context that the ES has assessed the area being used for storage, not a specific number of storage vessels.

The approach to electrical distribution and footprint required for electrical switchgear.	The Applicant maintains that the provision of a power supply to the carbon capture facilities (CCF) at 132kV needs to be included in the DCO. In the normal operating case, it is anticipated that the majority of the power demand of the CCF will be provided by the Back Pressure Turbine(s) (BPT(s)) that are proposed to be installed as part of the CCF. For the anticipated capacity of the BPT(s) it is assumed that this electrical power will be generated at a voltage of the order of 11kV, although the actual voltage will be determined at detailed design stage and will be influenced by the capacity of the BPT(s) and the supplier of the BPT generator(s). The principal function of the BPT(s) is to condition the High Pressure (HP) steam extracted from the steam cycle of the host plant for use in the carbon capture plant reboiler(s). The BPT(s) will therefore be sized based on the reboiler steam demand and required steam supply pressure, and on that basis are unlikely to generate sufficient electrical power to meet the full power demand of the CCF. An additional source of electrical power is therefore required, to make up the shortfall in electrical generation by the BPT generator(s). It is also necessary to design a system that is able to supply the full power demand of the CCF, to accommodate the operating case when the BPT(s) are not operating (due to a planned or unplanned outage). A number of potential options have been considered for this additional source of electrical power, including connection to the 132kV export substation at R1, connection to the 132kV export cable for R2, a new connection from the Distribution Network Operator (DNO), UKPN, or a combination of these options. The potential to supply power to the carbon capture plant at 11kV has also been considered, but this would not be appropriate due to: • limitations in the capacity of the auxiliary power network on the existing ERFs • the practicalities of making a physical connection to the existing 11kV connections between the existing steam turbine generator (STG) and grid step-up transformer (GSUT) within the ERFs. There are a number of constraints due to the physical arrangement of this connection and the existing electrical systems that make this option unviable; and • design considerations, such as voltage drop and number of cables required which result from transmission of the required power at 11kV over the distance from the existing plants to the CCF.

	The flexibility to include the provision of the 132kV switchgear and transformers to step down the electrical supply voltage to the 33kV and 11kV levels required for the CCF is therefore considered by the Applicant to be an essential part of the CCF design that has been brought forward. The layout and configuration of the 132kV plant on the existing Riverside 1 and proposed Riverside 2 sites, the space constraints within those sites, and the concerns over voltage drop within 11kV distribution cables, are such that it is not considered practically possible to locate the 132kV/33kV/11kV transformers and associated switchgear within the existing site areas. Space for this equipment has therefore been provided in the Substations and Transformer area of the Indicative Plant Layout, along with the other 33kV/11kV electrical switchgear, distribution equipment, standby diesel generator and other electrical equipment, the requirement for which is agreed by Landsul / Munster Joinery.
Whether or not there is sufficient heat demand, separate to the heat demand for heat captured from Riverside 1 and Riverside 2, to justify the inclusion of a heat transfer station for the Carbon Capture Facility.	Firstly, it is important to note that it is currently estimated that the Riverside EfW Facilities can provide around 490MW of heat. The Carbon Capture Facility heat cannot be simply added on, as it will use some of that heat and reduce it by about one third. Overall, the Riverside Campus, including the Carbon Capture Facility, would be able to provide some 360MW to 560MW. The Carbon Capture Facility therefore provides an important function in delivering this policy aim at the Riverside Campus. In that context, it is noted that with the passing of the Energy Act 2023, central and local government are pushing forward with seeking to enable heat network delivery. In London this includes: • Riverside Heat Network, with Vattenfall having planning permission to deliver the infrastructure to take heat from Riverside Campus to Bexley and Greenwich (e.g. Thamesmead). • South Westminster Area Network; • Old Oak and Royal Park Development Corporation; and • Future designations planned in the City of London and City of Westminster. Cory is currently engaged in active commercial negotiation with heat networks of some annual forecast demand of 1.2TWh by the early 2030s; or peak demand of 907MW. This can be delivered either via Mobile Heat (by boat, something recognised by the South Westminster Area Network) or long range heat pipe transmission.

	Finally, it is noted that both LBB and GLA have indicated that they want Cory to deliver heat from Riverside Campus as quickly as possible, to meet their policy goals. There is certainly therefore demand for heat from the Carbon Capture Facility.
Whether it is necessary to adopt a two line carbon capture facility rather than a single line carbon capture facility as the basis of design.	Any difference in size between one line and two line is minimal – the reduction would be limited to the capture process equipment (approximately ¼ of the Site). The Applicant estimates this to be less than 5%. This is because whilst the amount of each type of equipment might change, the remaining equipment will need to be sized to meet that capacity, i.e. you would require one larger (in length and width, but not height) version of each type of equipment to meet the same capacity if only one carbon capture plant is brought forward As set out in the ES (APP-052) one potential benefit of two Carbon Capture Plants is increased reliability. If one Carbon Capture Plant suffers an outage, then only half of the capacity becomes unavailable and the other can continue to operate, capturing the CO_2 from either Riverside 1 or Riverside 2. With a single Carbon Capture Plant, any outage would result in no capacity to capture CO_2. The Applicant considers that flexibility needs to be retained, to ensure that the benefits of the Proposed Scheme, upon which the Applicant's compelling case is based, are realised. Even with a single-line facility, Landsul/Munster Joinery's land cannot be avoided, in either a contiguous or a non-contiguous scenario, due to the requirements for the carbon capture storage and electrical infrastructure.
Whether it is necessary to segregate the carbon capture facility from the Riverside 1 and 2 EfW plants and the resultant provision of separate control room, welfare facilities, gatehouse, car parking and operational laydown.	The Riverside 1 and Riverside 2 control rooms do not have space to accommodate the additional facilities associated with the Carbon Capture Facility. As such, notwithstanding that the Carbon Capture Facility will the subject of its own permit, corporate structure and management regime and considering the Applicant's operational experience, in practical terms there simply has to be a separate control room, with associated waste facilities and car parking. As the Carbon Capture Facility will be separately controlled, a Gatehouse is needed for security purposes. Operational laydown is needed to allow for both routine and large-scale maintenance activities, which will need to be carried out in a way that does not prevent the on-going operation of Riverside 1 and Riverside 2. Maintenance activities of the Carbon Capture Facility would

	involve similar activities to those undertaken for those plants (see note on this below) and so sufficient room is needed for these to be able to take place.
Whether it is necessary to have a contiguous site for all of the proposed plant and specifically whether some of the proposed plant could be located to the south of the Landsul land with the balance to the north of it.	The Applicant considers that a contiguous site is necessary; focussing on Dr Edgar's two key aspects that he thinks could be placed to the south of Landsul/Munster Joinery's land: The water management area is an integral part of the carbon capture process and therefore also its plant. It would include pumps, valves and supporting electrical equipment, as well as continuous maintenance to ensure that it is fulfilling its functionality. It reduces impact on Thames Water's water network and provide resilience. It will therefore require regular access by operational staff during normal operation, for routine inspection and maintenance, and in the event of equipment failure or unplanned downtime which could have knock on effects to the Carbon Capture Facility. It is therefore essential for safe, reliable and efficient operation of the Carbon Capture Facility that this part of the plant is accessible from within the main carbon capture plant site. It is also noted that the requirement for a separate secure access to the water management area will also lead to inefficiencies in the layout for this area, as it will not be able to be part of the main site circulation routes and one-way system, and will therefore require additional vehicle parking and turning areas. In respect of the heat transfer station, the Applicant notes that it is not definitive that it will be operated by another entity. In any event, as heat capture is a key part of the overall process for the Proposed Scheme and its benefits, the Applicant considers it is important for reasons of operational efficiency to manage and maintain them together in one site. The Applicant also notes the practical difficulties of having a non-contiguous site: • the need to pass and re-pass multiple security gates and traverse Norman Road (noting the footway is on the other side of the road to the Carbon Capture Facility land) in times of equipment failure or security failure where time is of the essence; • the need for pipework between both parts of the plant, including hot water supply and return pipework and make up water supply where: o given the constraints of the ditch and Norman Road Field (as MOL and SINC land), there would be appear to be insufficient space to direct all such pipework

	behind the Munster building, or maintenance to it, and/or as an access route between two parts of a split site; and o in front of the Munster building, this would require pipework to be built within Munster's cark park and external hand standing areas (assuming that they would not the impact of above ground pipes). This would cause disruption to Munster both in construction and at maintenance stages; and would be a particular concern for the water pipes, where speed of access to damaged pipes will be vital to minimise knock on impacts to the Carbon Capture Facility, which would not be possible if buried in a third party's car park. Finally, the Applicant notes that its fundamental position is that even if a non-contiguous site <u>was</u> accepted, Landsul/Munster Joinery land cannot be avoided – the balance of plant could not fit to the north of their plot due to: • the size of the remaining infrastructure and the access/pipework requirements associated with it (as per the first item above); • the need for electrical infrastructure; and • the need for sufficient space for carbon storage.

<u>Note regarding crane pictures</u>

Appendix C: Flue Gas Ductwork Note to the **Applicant's Written Summary of Oral Submissions at ISH 1 (REP1-026)** at paragraph 1.1.7 refers to Figures 1 to 3 that were due to show the 750t cranes in operation. Unfortunately, the figures were omitted in the appendix. The images that would have comprised Figures 1 to 3 are provided here.

Figure 1 Crane on eastern side of Riverside 1, looking north

Figure 2 View from Riverside 1 (western side) looking into centre of Riverside Campus

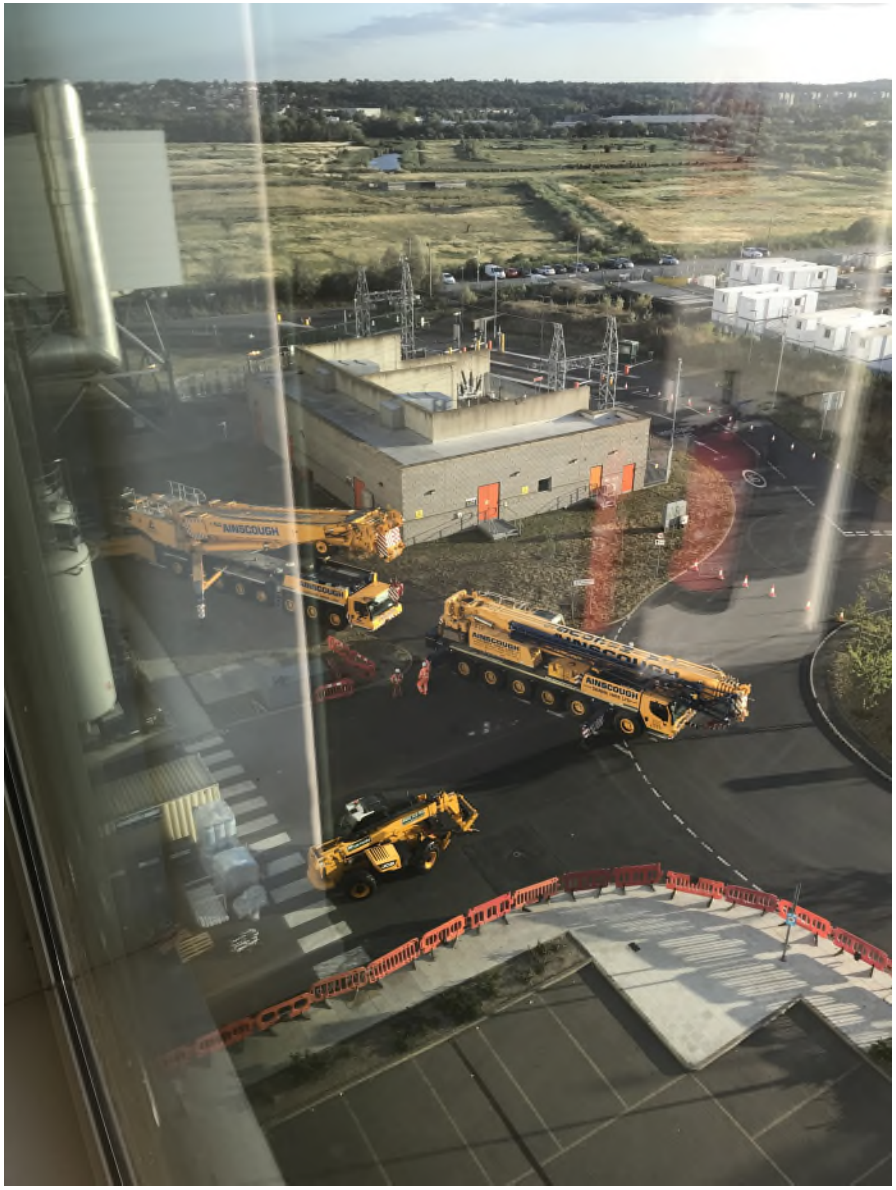

Figure 3 Cranes operating on western side of Riverside 1