

Written Representation for Deadline 1 - Viking CCS Pipeline NSIP

A) Contrary to what the Applicant proposes in Clauses 3.5.11, 3.7.2, 3.7.5 and others of *Environmental Statement Volume II – Chapter 3: Description of the Proposed Development (EN070008/APP/6.2.3)*, pipelines for transporting dense phase CO₂ should **not** be designed under BS PD8010 – Part 1.

I refer here to the current “Guidance on conveying carbon dioxide in pipelines in connection with carbon capture and storage projects” published by the UK’s Health and Safety Executive. As at 18 April 2024, this states that:

“Codes IP6, BS EN 14161, BS PD 8010 and DNV OS-F101 are all applicable to pipelines used to transport CO₂. However none of these standards address CO₂ transported in its dense or supercritical phases.”

B) The proposed pipeline might be incompatible with the existing (LOGGS) offshore pipeline into which it would discharge at Theddlethorpe – begging fundamental questions about the application’s credentials. The CO₂ transported along the former would be dense phase CO₂ (flowing like a liquid). The gas (not flowing as a liquid) which was transported from the offshore Viking field was under the same pressure as that within the geological formation from which it was extracted. I understand that no dense phase CO₂ pipelines operate in the UK – and that the UK does not manufacture the requisite pipes.

C) Since this planning enquiry started, the owners of the proposed pipeline and the owners of Drax power station have signed a Memorandum of Understanding to explore options for transporting CO₂ from Drax power station. A DCO was recently granted for a carbon capture facility at that power station, to supply 8 million tonnes of CO₂ each year (– if the implausibly optimistic capture rate prescribed is achieved and sustained). That facility is likely to operate intermittently or at variable flow rates – for example in the following situations. (i) When not required by the grid. (ii) When its owners choose, as they did during 2022-2023 (with the generating unit to which Contracts for Difference subsidy applied) when the grid and UK consumers most needed it – at times when the market reference price exceeded the strike price. (iii) When failing to perform as proposed. (iv) When operating at less than full capacity (to provide grid stabilisation services (for which subsidy might not be available) rather than to dispatch electricity. Intermittence and variability would destabilise operation of the downstream pipeline and geological injection and might jeopardise the purity of the captured CO₂). Connecting into the proposed Viking CCS pipeline poses corresponding risks.

D) Clause 4.3 of the “*Secretary of State Decision Letter including the Statement of Reasons*” concerning the Nationally Significant Infrastructure Project “*Yorkshire and Humber Carbon Capture and Storage Cross Country Pipeline*” – proposed in association with Drax’ White Rose CCS project – states:

The Secretary of State considers that EN-1 does not provide support for ccs transport infrastructure in isolation and it is necessary for the Applicant to show that there is a reasonable likelihood of the Development forming part of a full chain of CCS.

The proposal now being considered – the Viking CCS pipeline – is similarly an isolated component of a complex project. Most of its other (perhaps technically more awkward) components seem to be, at best, at a very preliminary stage of development. Of the two suppliers of CO₂ which the proposal indicates would “anchor” the Viking CCS pipeline, only one seems to have published estimates for the amount of CO₂ it expects to supply.

The symbolism of this proposal may have value, even if it is never established. It gives the (probably false) impression that progress against timelines for carbon capture and storage targets are realistic and scientifically valid - irrespective of whether these disregard the lack of progress which has been made world-wide since the Climate Change Act (2008) deemed 2050 as the UK target to achieve Net Zero. It may nevertheless both boost the profile (and share price) of proponent enterprises and help maximise but misdirect government support.

E) The supposedly independent, necessarily theoretical, report indicates that the capacity of the geological store would be exhausted within 30 years at the proposed initial flow rate, correspondingly less if, as proposed, flow rates exceed 10 million tonnes per year. This contrasts with actual experience from two of the only sites of comparably large scale Equinor at its Sleipner and Snøhvit CO₂ storage sites – which have performed substantially less favourably than anticipated.

E) The DCO should give particular attention to liability for CO₂ leaks both short and very long-term – or for delays and underperformance (both of which are likely). The industry lacks social licence to operate (or continue operating) and should not be underwritten by government.

Operational and maintenance environmental management plan is the heading of Clause 15 of *Part 2 (Ancillary works), Schedule (Requirements), Part 1 (Requirements)* on page 61 of *Document Reference: EN070008/APP/2, 2.1 Draft Development Consent Order, Revision B – Tracked, March 2024*. The text of this appears generic – without due consideration for the hazards involved in transporting dense phase CO₂.