

To the Rt Hon Miatta Fahnbulleh MP,

Dear Secretary of State for Energy Security and Net Zero,

I am deeply concerned at the unprecedented number of major infrastructure projects already being developed or due for development in East Suffolk at the moment and fear that so much construction taking place in one small geographical area is leading to an overwhelming cumulative impact problem that is escalating out of control. I have been attempting to stay informed about what is happening with all the different projects locally and would like to take this opportunity to address the harmonics issue raised in question 13 of your request for information (RFI) letter of 28th August in relation to the Sea Link DCO.

Instead of complying with the Rochdale envelope and presenting the worst-case scenario for this very important harmonic problem, it would appear that NGET adopted a 'no-case scenario' approach and has completely failed to address the issue at all. This leaves some extremely significant issues unresolved and I find it extraordinary that these are being addressed for the first time so close to the end of the DCO. If the harmonics problem with respect to the converter station design is not solved before you have to make your final decision about Sea Link, it will be uncertain how much larger the Saxmundham converter stations will need to be in order to overcome the destabilising effects of the harmonics. This may fall outside the parameters of Horlock's rules and may mean that the footprint and design that we have been looking at so far bears very little resemblance to the final structure that is delivered. In addition, if redesign is required as a result of the harmonics issue and significant adverse impacts are identified – with respect to noise and vibration for example – fresh examination will be required which would represent a material change to the project.

Even more worrying is how the harmonic issue could potentially affect the stability of the grid. Sea Link is described as a grid reinforcement, but if electricity conversion at the Saxmundham converter stations site results in harmonic destabilisation that causes destabilisation of the grid at Friston (as suggested by question 13), the whole premise of Sea Link reinforcing the grid is called into question. Also, if the original plan had been to site EA1N and EA2 at Sizewell and then Friston was chosen without regard for harmonic dynamics, it would appear that the decision to add the Sea Link and Lion Link converter stations at Saxmundham was irrational because, instead of reinforcing the grid, these projects will potentially be destabilising it.

It is worth taking the time here to examine the series of poor short-term planning decisions that led to the foundations on which the Needs Case for Sea Link rest as well as in order to establish a better understanding of what is going on in East Suffolk at the moment:

- 1) Initially, all the electricity from the Scottish Power Renewable (SPR) North Sea offshore windfarms was due to connect at a pre-existing connection point at Bramford via a 37km cable corridor from Bawdsey, but a short-term, cost-cutting decision that drastically reduced the transmission capacity of the cable corridor in order to keep the

individual SPR EA1 project competitive meant that only the electricity from two of the four SPR windfarms could be transmitted to Bramford after all.

- 2) It was assumed that it would be possible to connect the electricity from the other two SPR windfarms at Sizewell and connection was offered in the “Sizewell Area” not only to EA1N and EA2, but also to Lion Link and Nautilus as well. In the end though, connection at the Sizewell site was not possible meaning that a whole new connection point had to be identified.
- 3) Friston was identified as the site at which to develop the EA1N and EA2 substations and plans for the NGET connection point - essential in order to connect the SPR electricity to the grid – were embedded within the application. It is this connection point that is at the heart of everything because, although it was intended specifically to connect the electricity from the two SPR windfarms to the grid, it has the potential to act like a giant junction box (or plug) at which many more electricity projects can be connected in the future.
- 4) During the EA1N and EA2 DCOs, the Examining Authority (ExA) expressed concerns that the effects of the cumulative delivery of the SPR projects were ***so substantially adverse*** that utmost care would be required were any further projects to be connected at Friston in the future. The ExA also recognised that the NGET connection point was in fact a strategic ***‘de facto’ connection hub*** at a place in which ***arguably such a facility should not be developed because its harms would outweigh its benefits***. (Words in italicised bold letters taken from the EA1N and EA2 DCO documentation).
- 5) In spite of the ExA’s concerns, consent for development was awarded to the SPR substations and the NGET connection point, at which the electricity from the other projects that were offered connection to the grid in the Sizewell Area in 2017 could now connect, was established.
- 6) However, it then transpired that, once Sizewell C came online, there would not be enough capacity in the Sizewell grid to accommodate the amount of electricity that would be produced by EA1N, EA2, Lion Link and Nautilus. So, basically, not only had connection been offered to multiple projects at a connection point that didn’t actually exist, but it had also been offered to a pylon route that didn’t even have enough capacity to support the connections.
- 7) It is this deficit in capacity which gave rise to the “real” need for Sea Link – to act like a giant extension cable in order to take excess electricity out of Suffolk to Kent and free up capacity in the Sizewell pylon route.
- 8) The combination of the NGET connection point that allows electricity to be connected to the grid at Friston with Sea Link that can transmit electricity out of Suffolk provides the mechanism whereby any excess electricity generated in or brought into East Suffolk can be taken straight back out again to Kent. In this way, East Suffolk – a region blessed with SSSI sites, protected environments, National Landscapes and more, that is dependent on environmental-based tourism for its very economy – looks set to become a major energy super-hub with 30% of the country’s electricity supply being

generated in or transmitted through it. On the other side of the North Sea, our neighbours are connecting wind power from integrated offshore grids at industrial sites such as Rotterdam and Zeebrugge....

It is inevitable that cumulative impact problems such as the one identified in Question 13 of your RFI letter will be encountered when so many major electrical infrastructure projects are being developed concurrently in one small area, especially since different Developers are looking at individual projects independently. It should come as no surprise therefore that cumulative impact problems such as harmonic destabilisation from multiple connections at Friston are being encountered. Clearly, the environmental impact assessment of all the different projects connecting at Friston should have been assessed cumulatively in the first place rather than using the incremental salami-slicing approach that has been employed to date. Had EA1N, EA2, the NGET connection point, Sea Link and Lion Link all applied for consent for development simultaneously, the cumulative impacts would have been identified as being far too harmful and consent would never have been awarded.

I hope you will be able to take all the unresolved issues surrounding the Sea Link DCO into account when making your decision and that you make your decision in the context of East Suffolk's extreme infrastructure burden and cumulative impact chaos.

Yours sincerely,

Dr Charlotte Fox

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