

SPR EA1N and EA2 PROJECTS



DEADLINE 5 - BEIS OTNR PATHFINDER CLARIFICATION NOTE

(AGENDA ITEM 2 OF ISH4 ON TUESDAY 19 JANUARY 2021)

Interested Party: SASES

IP Reference Nos. 20024106 and 20024110

Date: 3 February 2021

Issue: 1

1. Background During 2020 the BEIS Offshore Transmission Network Review undertook detailed evaluation of possible economies and environmental benefits resulting from the offshore coordinated connection of windfarms, rather than continuance of the existing radial approach to connections. This work, which was largely undertaken by National Grid ESO on behalf of BEIS, was presented in a webinar on 17th December 2020.

The BEIS Review reported potential capital cost savings in excess of £6bn resulting from coordination of offshore transmission works, provided the earliest possible start was made (around 2025). Stakeholders were requested by BEIS to come forward with proposals for Pathfinder projects capable of early implementation to verify the anticipated benefits.

SASES considers that coordination of the SPR EA1N and EA2 projects makes a very suitable candidate for such a Pathfinder by allowing a reduced number of cables and trenches to an existing National Grid substation site, thereby substantially reducing onshore environmental impacts. And this Pathfinder is understood to be compliant with the existing Ofgem regulatory environment.

2. Proposal At OFH3 a proposal was made ([\[REP1-227\]](#), p175) for the alternative delivery of the output of the EA1N and EA2 windfarms by a coordinated 1.7GW HVDC Bipole link from an offshore platform to Bramford NGET substation, via a reopened Bawdsey to Bramford cable route.

This proposal was reiterated by SASES at ISH4 [\[EV-055\]](#) as a possible “Pathfinder” project in support of the BEIS OTNR review, but was only described in outline. This note provides additional information and clarification.

3. Pathfinder Summary Described most simply, the proposal is to replicate the approach taken by the Applicant’s East Anglia 3 project (understood to be a 1.4GW HVDC Bipole connection to a single converter station at Bramford, adjacent to the NGET substation there) but scaled up by 20% to 1.7GW, again using HVDC Bipole with a single converter station at Bramford.

4. National Grid ESO has told SASES that so long as the OFTO system design does not have a single point of failure which could lead to an Infeed Loss of greater than 1320MW then use of HVDC Bipole to deliver 1.7GW should be acceptable. In any case the 1320MW SQSS Infeed Loss limit is under review as a result of the BEIS OTNR and is likely to be increased to perhaps 1800MW.

SASES notes that East Anglia 3 is understood to use HVDC Bipole technology and has a power output of 1.4GW, which is in excess of 1320MW, but is nevertheless presumably compliant with the SQSS.

5. During questioning the Ofgem representative advised at ISH2 [\[EV-034u\]](#) that the Pathfinder configuration as described could be compliant with the existing Ofgem regulatory regime as both wind farms were in the same ownership.
6. The proposed scaling up from the EA3 project is likely to require a correspondingly scaled-up footprint for the converter station at Bramford, but the Applicant is believed to already own sufficient suitable land there to meet the requirement.
7. NGET have previously confirmed acceptance of the power output of the EA1N and EA2 projects at Bramford (early CION assessments refer).
8. It is believed that the EA3 project is, or soon will be, reconstructing the haul road from Bawdsey to Bramford for the purposes of installing the cabling for EA3, so demonstrating that site access to the cable route remains achievable.
9. This proposal would require some level of ambition on behalf of the Applicant, but it is noted that the existing HVAC proposals for EA1N and EA2 include significant technical ambition by proposing an increase in the system voltage from 220kV to 275kV.

END