SPR EA1N and EA2 PROJECTS

DEADLINE 4 - COMMENTS ON APPLICANTS DEADLINE 3 SUBMISSIONS

Interested Party: SASES **PINS Refs:** 20024106 & 20024110

Date: 13 January 2021 **Issue:** 3

INTRODUCTION

1. These comments relate to a variety of the Applicants' submissions made at Deadline 3 excluding matters relating to construction, traffic and transport and responses to the Applicants' comments on SASES' written representations which SASES made at Deadline 1, which are dealt with in separate documents. The fact that a comment has not been made any particular submission should not be construed as SASES agreeing with the submission.

GENERAL

Onshore Substations Update Clarification Note [REP3-057] and Project Update Note [REP3-052].

SASES' comments on these two notes break down into three broad categories, design Issues, landscape issues and cultural heritage issues.

Design Issues

The reduced footprint and height of the proposed substations is noted but:

2. The proposed substation area of **3.23ha** is substantially greater than the benchmark **2.1ha** for an 800MW HVAC substation documented by NGESO in their report forming part of the recent BEIS Offshore Transmission Network Review (Table 2-24 on page 38 of https://www.nationalgrideso.com/document/182936/download). The increased size needs to be fully justified.

Table 2-24 Comparison of onshore area requirements

	Typical capacity GW	Voltage kV	Area ha[20]	Number	Total area ha
Integrated					
HVDC substations	2.64	525	8[21]	20	160
HVAC substations	0.8	220	2.1[22]	6	12.6
Existing interconnector HVDC	-	-	-	4	-
Total area					**172.6**
Counterfactual					
HVDC substations	1.8	525	5[23]	57	285
HVAC substations	0.8	220	2.1	48	100.8
Total area					**385.8**

3. Further by way of comparison the area required for the Hornsea 1 substation (1200MW HVAC and therefore 50% more powerful than EA1N) is smaller at 3.22ha than the 800MW design proposed for EA1N even after the reduction in area from 3.61ha to 3.23ha. Extracts from: The Hornsea One Offshore Wind Farm Order 2014

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010033/EN010033-002062-Hornsea%20Project%20One%20Offshore%20Wind%20Farm%20Order%202014%20as%20made.pdf

*2. The nationally significant infrastructure project comprises two or, subject to paragraph 3, three offshore wind generating stations with a combined gross electrical output capacity of up to **1,200 MW** as follows—*

***Work No. 10** — an electrical transmission station including a building abutting an open yard (which may be partitioned with concrete or steel walls or fences containing switchgear, electrical reactors and other electrical equipment) on land adjoining the North Killingholme National Grid substation. If the electrical circuits comprised in Works Nos. 6, 7 and 9 are HVDC, the electrical transmission station will include facilities to convert the current to HVAC.*

*(23) The site of **Work No. 10** must not cover more than **32,200 m2 in area**, excluding any area of land required for landscaping and mitigation.*

4. The 3D schematic (Plate 5.2 of [REP3-057]) and revised OLMP (Figure 3 of [REP3-030]) both show large areas of vacant substation area between the reduced sized electrical equipment. The Applicants are asked to justify why the equipment spacing is so great and why there is no reduction in the 190m dimension. It should be noticed that the orientation of the 3D schematic in plate 5.2 is different from the orientation of both the eastern and western substation shown in the OLMP.

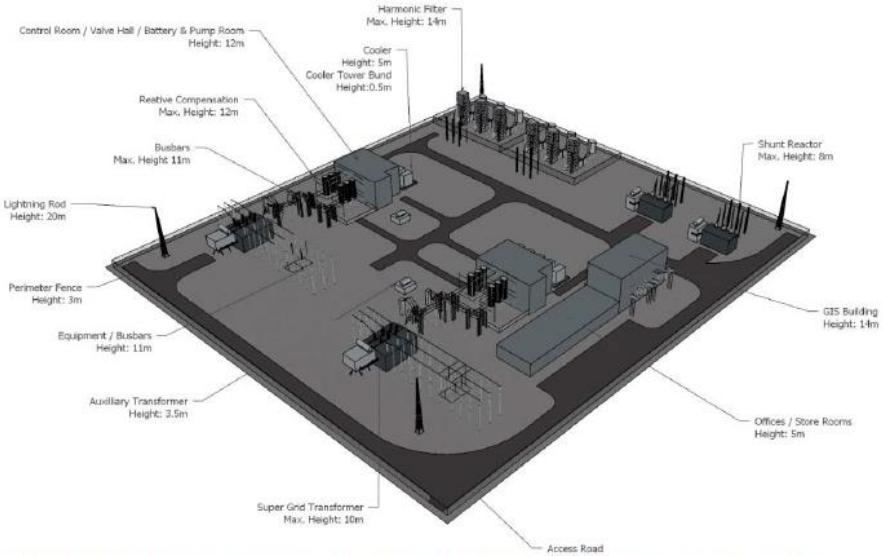
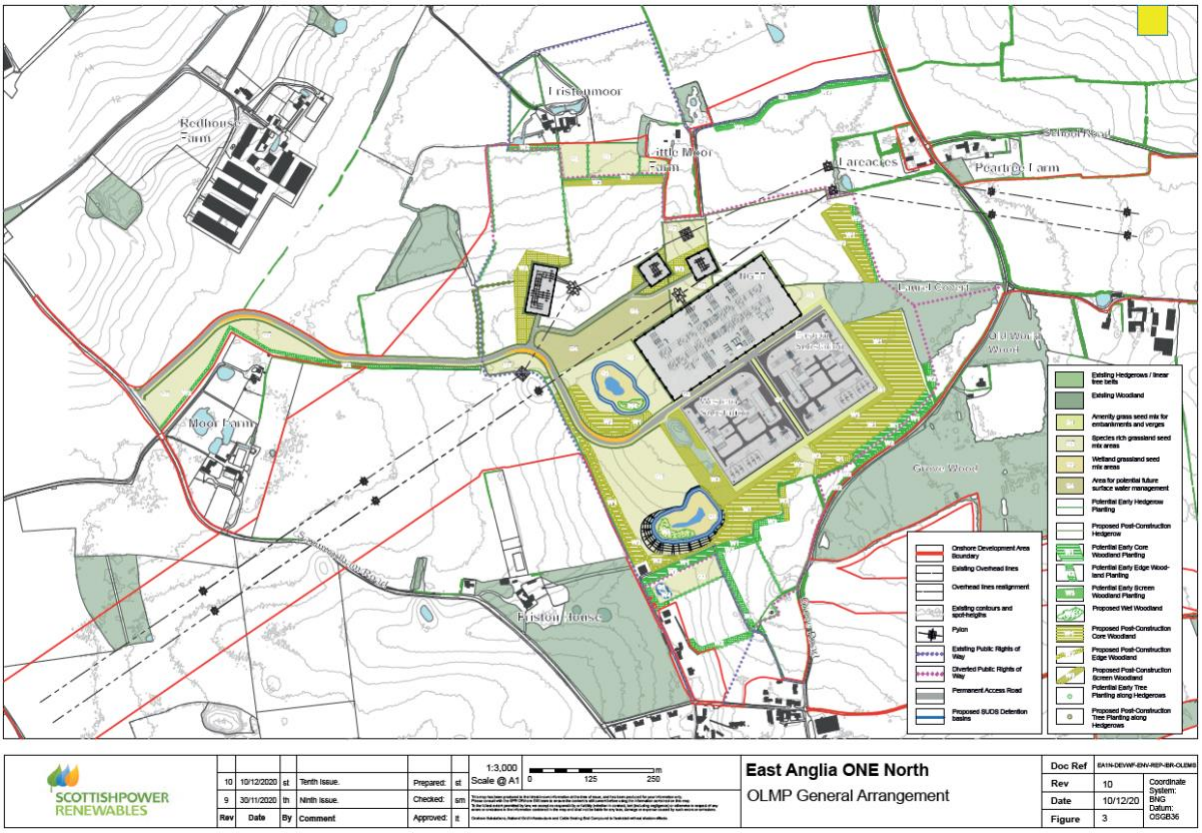


Plate 5.2: 3D model of the updated easternmost onshore substation showing reduced footprint and building / equipment parameters



5. In Q5 of page 32 of https://www.nationalgrideso.com/document/182921/download, in NGESO feedback related to the BEIS OTNR Review, a participant has commented *'We would also highlight that harmonic instabilities can be worsened at 275 KV. It is also not clear what benefit there would be of a higher voltage substation as it would drive larger switchgear'.* These would appear to be significant arguments against the choice of 275kV rather 220kV as the system voltage for the projects due to the impact on the design of the onshore substations.
6. The Applicants are asked to confirm that the revised design is based on the optimum use of the latest 'compact' GIS switchgear equipment, as a yet greater height reduction would be highly desirable.
7. The reference Rampion wind farm substation design (Figure 3 on page 165 of [REP1-227]) appears to use multiple smaller Harmonic Filters in order to produce an overall reduction in height. Has this option been explored?
8. There is not thought to be any specific reason why the substation footprint has to be rectangular. The footprint of the reference Rampion wind farm substation (Figure 3 on page 165 of [REP1-227] and reproduced below) is not rectangular; rather it has been designed to fit within existing site hedgerow boundaries, so avoiding unnecessary

environmental destruction and maximum use of existing screening. Have the Applicants given consideration to this approach?

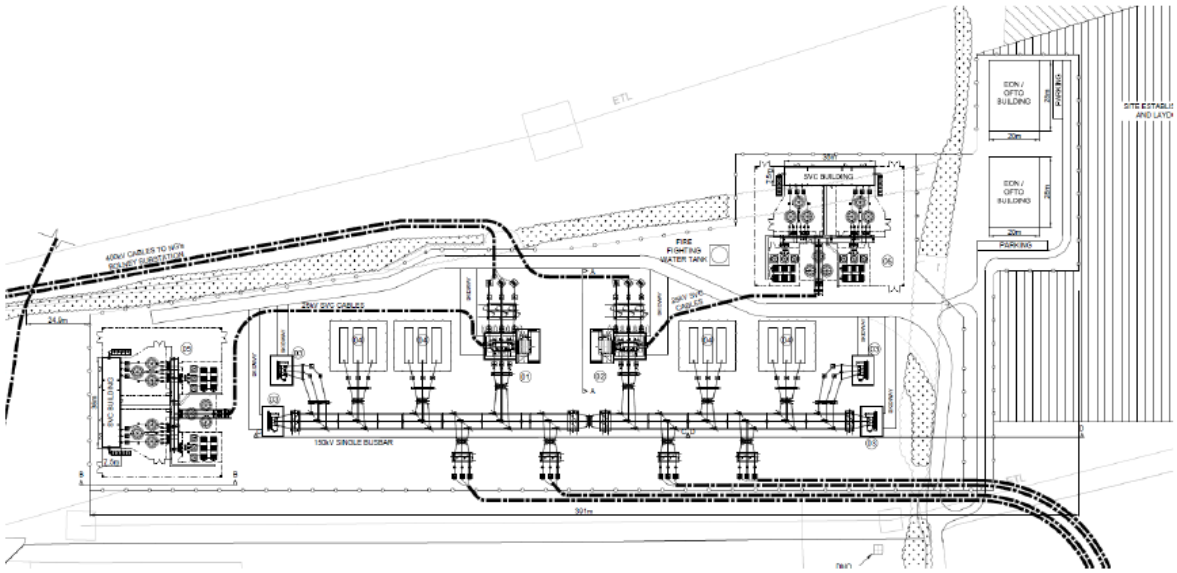


Figure 3

9. Landscape design and 'micro-siting' with a further reduced substation footprint together with the GIS version of the proposed NGET substation could allow a much reduced land-take for the project, and some potential layouts on this basis might allow retention of the 'Pilgrim's Way' north-south footpath. The current proposals are regarded as unacceptable over-development of a greenfield site and contrary to the policy requirements of good design.

10. Finished ground levels – the revised finished ground levels need to be treated with caution given the surface water flood risk at the substation site and the qualification within the Project Update Note at paragraph 10 that there is a need for *"future geotechnical and detail design studies to be undertaken (in order to establish the soil properties, bearing capacity, **groundwater levels** etc.),* [emphasis added]. In addition the revised finished ground levels are only expressed to apply to the National Grid substation not the remainder of the National Grid connection hub such as the cable sealing ends. Also given that it is stated at paragraph 7 of the Project Update Note that "*It has not been possible at this stage to reduce the heights of buildings or external equipment within the National Grid substation as National Grid has not yet progressed their design from that submitted with the Applications"* it is difficult to understand on what basis the revised finished ground level for the National Grid substation has been determined. Furthermore finished ground levels are neither defined nor specified in the draft DCO.

11. Given plate 5.2 sets out the heights of more structures than set out in the DCO these heights should be specified in Part 3 of Schedule 1 - Requirements of the DCO otherwise the heights of the structures could be increased to 14 metres.

12. All the above support the need for a 'Design Champion' or other equivalent arrangements to ensure best possible use of the Friston site, should this be consented.

Landscape Issues

13. Please see comments from Michelle Bolger, Expert Landscape Consultancy, landscape briefing note 5 attached at Appendix 1, pages 1 – 4.

Cultural Heritage Issues

14. Please see report from Richard Hoggett Heritage attached at Appendix 2.

Responses To Hearings Action Points (ISH1,CAH1 ISH2)

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003238-ExA.HA.D3.V1%20EA1N&EA2%20Applicants%20Responses%20to%20Hearings%20Action%20Points%20(ISH1,%20CAH1,%20ISH2).pdf

15. Please see comments from Michelle Bolger, Expert Landscape Consultancy in landscape briefing note 5 attached at Appendix 1, page 7.

Sizewell Mitigation Land Clarification Note (REP3-076)

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003235-ExA.AS-24.D3.V1%20EA1N&EA2%20Sizewell%20Mitigation%20Land%20Clarification%20Note.pdf

16. The following comments are made by reference to the numbered paragraphs in this note.

17. Paragraph 5 – a number of statements are made concerning EDF's position but the Applicants provide no documentary evidence of this. To avoid any confusion EDF should be asked to confirm that they agree with the Applicants' statements in paragraph 5 concerning EDF.

18. Paragraph 12 third and fourth bullets – these statements are incorrect. Given that EDF were prepared to release the Broom Covert land, the question of compulsory purchase powers was not a relevant consideration. As is clear from subsequent paragraphs in the note, alternative land was available subject to negotiation, which the Applicants chose not to pursue.

19. Paragraphs 16 – 20 - the Applicants have failed to answer this question and seek rely upon their site selection process which as SASES submitted at ISH2 was deeply flawed – see SASES post hearing submission on site selection[1].

20. Paragraphs 21 – 26 - it is clear from paragraph 25 that at least one landowner was negotiating with the Applicants to find an alternative reptile mitigation site and those discussions only ended because the Applicants chose to end them. The Applicants have provided no evidence that the acquisition of additional ecological mitigation land *"was extremely challenging"*.

[1] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003219-sases%20deadline%203%20Site%20Selection%20Subs%20151220.pdf

CULTURAL HERITAGE

Outline Scheme Of Investigation Archaeology And Cultural Heritage (Onshore)

21. SASES is encouraged to see the development of this document and supports the efforts of Suffolk County Council in relation to this topic in particular the need for as much of the required fieldwork to be completed as soon as possible so that informed decisions can be made.

Historic England Deadline 3 Response

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003344-DL3%20-%20Historic%20England%20-%20Deadline%20Response.pdf

22. With regard to Historic England's Deadline 3 response we would highlight their comments:

    a. that they have consistently raised concerns regarding the impact on the significance of Saint Mary's Church, including (i) concerns about the underweighting of the significance of the church during the RAG assessment and (ii) the important contribution of landscape setting towards the significance of the church

    b. their concerns that more has not been done by the Applicants to identify and address the harm to St Mary's Church

ONSHORE ECOLOGY

Important Hedgerows and Tree Preservation Order Plan REP3-010

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003261-2.10%20EA1N%20Important%20Hedgerows%20and%20Tree%20Preservation%20Order%20Plan.pdf

23. Sheet 7 of this Plan shows the substation site with 20 lengths of important hedgerows to be removed, representing all of the hedgerows north of, and close to, the village of Friston. This will destroy the historic character of the area completely. The Applicant should explain why it is necessary to remove all of these hedges. In particular why specifically do Hedgerows 38, 39, 40, 41, 42 and 45 require removal? It would appear the Applicant wants to completely clear the site for its own convenience rather than of a necessity. There is also a conflict between this plan and Annex 1 of the OLEMS where these hedges are listed as Landscape Mitigation without removal.

24. The new Outline Landscape and Ecological Management Plan (https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003282-8.7%20EA1N%20Outline%20Landscape%20and%20Ecological%20Management%20Strategy.pdf) shows new hedgerow planting to the edges of the new access road, cable sealing ends and NG substation. It should not be argued by the Applicant that this type of formal boundary hedging around modern man-made structures mitigates for the loss of historically important field boundaries.

25. The planting of hedging around the NG substation and along the access road will not compensate for the loss of the important hedgerows used as foraging routes and nesting

sites. To the contrary the noise of the substations and the presence of vehicles will be a deterrent to wildlife.

26. As far as the key is concerned, there is no differentiation shown between *Potential Early Hedgerow Planting* and *Proposed Post-Construction Hedgerow*, both of which are shown by a green line. It can only be assumed that this hedgerow planting will occur post-construction and therefore the impacts on wildlife, in particular bats and birds, will be extended.

FLOOD RISK

Outline Operational Drainage Management Plan

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003298-ExA.AS-1.D3.V1%20EA1N%20Outline%20Operational%20Drainage%20Management%20Plan.pdf

27. Please see comments from GWP Consultants at section 3.1 of their report entitled Flood Risk Related Comments on Deadline 3 Submissions at Appendix 3.

Outline Code Of Construction Practice

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003273-8.1%20EA1N%20Outline%20Code%20of%20Construction%20Practice%20(Tracked).pdf

28. Please see comments from GWP Consultants at section 3.2 of their report entitled Flood Risk Related Comments on Deadline 3 Submissions attached at Appendix 3.

NOISE

Applicants Response To Appendix 4 Of The Local Impact Report

29. Given that the Applicants have still not responded to SASES Written Representation in relation to noise submitted at Deadline 1 (but have expressed an intention to do so at Deadline 4) and given that ISH4 will focus on noise issues, SASES will comment on this response at Deadline 5 as part of its post hearing submissions.

LANDSCAPE AND VISUAL

Outline Landscape And Ecological Management Strategy REP-031

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003282-8.7%20EA1N%20Outline%20Landscape%20and%20Ecological%20Management%20Strategy.pdf

30. Please see comments from Michelle Bolger, Expert Landscape Consultancy, in Landscape Briefing Note 5 attached at Appendix 1, pages 6 & 7.

31. Paragraph 76 (page 23) states:-

> *The OLMP should be designed in order to accommodate any future development of the National Grid substation to accommodate future projects, without*

modification to the final LMP, such as the removal of planting provided by the proposed East Anglia TWO project.

It is important that the OLMP delivers more than just planting with a sole screening function. The site is surrounded by public footpaths, hosts wildlife and is currently enjoyed by the surrounding communities and therefore the masterplan should deliver significant gains for biodiversity and public amenity.

32. It should be noted that the first paragraph above envisages future development of the National Grid substation. The second paragraph commits to significant gains for biodiversity and public amenity, which the Applicant has said it is not obliged to deliver. There are no gains, significant or otherwise, for biodiversity at the substation site and as far as public amenity is concerned there are only significant losses.

33. Paragraph 87 states: *If the National Grid GIS substation is adopted, the LMP will be prepared based on the GIS layout and take advantage of the reduced footprint that a GIS solution provides.* This demonstrates that the Applicant is fully aware that a GIS option would release further land for potential development and supports the statement made in Paragraph 76 above.

34. Paragraph 151 refers to the planting of hedgerows along the permanent access road but with the proviso *"The Landscaping in the area around the bends of the access road must accommodate for any oversail of Abnormal Indivisible Load deliveries to the onshore substations. Refinements will continue to be made to the planting in these specific areas, details of which will for part of the final LMP prepared post-consent."* There are three bends shown on the OLMP, all of which are shown with hedgerow planting. It is misleading for the OLMP to include this hedgerow planting when in all likelihood it will not be possible to plant in this location, especially on the tight right-angle bends near the substations.

35. New paragraphs 174 – 179 suggest two areas comprising Work Nos 28 and 29 east of Grove Road where the Applicant has identified ecological mitigation opportunities. Both Work Nos 28 and 29 are stated to be provisional if a requirement for ecological mitigation is needed post-consent as a result of pre-construction surveys. It is therefore incorrect to present these areas on the OLMP as mitigation areas when they are only seen by the Applicant as provisional. Mitigation for the loss of suitable habitats on the substation site must be provided as a certainty in the DCO and be created pre-construction. This particularly applies to suitable habitats for bats, badgers and birds displaced on the substation site.

36. Paragraph 185 – See response to Row 59 in the Applicants' Responses to SASES Deadline 1 submissions regarding veteran trees.

37. Paragraph 212 states that "*Friston Beck is not considered further within this OLEMS as it is not considered to be of ecological value".* As the Applicant is proposing to discharge surface water into the Friston Watercourse, an ecological survey should be carried out in order to ascertain its true ecological value. For example it is known that bats enter the culvert at Grove Road and this culvert should be properly surveyed along its entire length.

38. Annex 1: Hedgerows Schedule – The Applicant is asked to explain what is meant by "Landscape Mitigation" in respect of Hedgerows 38 to 50 as these are shown for removal on Sheet 7 of the Important Hedgerows and Tree Preservation Order Plan.

39. Section 3.5.13 Public Rights of Way - Paragraph 149 – This paragraph has been amended from the proposals that the *"permanent diversions will be completed by the end of the construction phase"* to *"the proposed permanent diversions will be in place prior to the existing PRoW being stopped up".* No explanation is given as to what PRoWs will be available to the public during the construction phase despite the Applicants' confirmation in their response to SASES Deadline 1 submissions Row 04-07 that it does not intend to keep FP6 open during the construction phase. The omission to explain how the PRoW network on the substation site will function during the construction phase is unacceptable and the Applicant should be asked to clarify the situation fully prior to DCO consent.

40. In summary:

- Hard surfacing to the proposed alternative PRoW on the substation is inappropriate.

- The Applicant must clearly explain how the PRoW network on the substation site will function during the construction phase, including the timing of the stopping up of FP6 and the creation of the new alternative PRoW to the satisfaction of the local authority.

- More detail is required on how the reduction of levels on the site and creation of CCSs will interact with the proposed alternative PRoW.

Updated Photomontages Clarification Notes

41. Please see comments from Michelle Bolger, Expert Landscape Consultancy, in Landscape Briefing Note 5 attached at Appendix 1, pages 4 & 5.

PROW ISSUES

Outline Public Rights of Way Strategy (together with Temporary Stopping up of Public Rights of Way Plan 2.6.1 and Permanent Stopping up of PRoWs 2.6.2) REP3-025, REP3-008 and REP3-009

42. Paragraph 3 adds a specification for alternative permanent PRoWs, which is included at Annex A. This shows a constructed finish consisting of layers of geotextile material, aggregate, compacted Type 1 granite, finished by a wearing course of granite fines, with a total thickness of 215mm. Existing PRoWs in and around the substation site are wide trackways, up to 2M wide, with a grassed surface appropriate for a rural area and the introduction of a formally constructed pavement of unspecified width is totally unsuitable and adds to the urbanisation and industrialisation of the area. It is understood that the Local Authority would prefer the finish to be grassed, as would most walkers, including those with dogs.

43. Whilst Sheet 7 of the Temporary Stopping up of Public Rights of Way Plan shows more than 12 temporary diversions in and around the substation site, the text of Table 2.1 in the OPRoWS on page 10 in relation to PRoW Ref E-354/006/0 and E-354/007/0 is far from clear on how these diversions would work in practice to keep the network of footpaths open and usable during the construction period. The Applicant should be asked to explain this clearly and unambiguously and give details of what surfacing will be provided on these diversions and the likely length of time for diversion.

44. Paragraph 16 states that site notices will be erected approximately 1-2 weeks in advance of temporary stopping-up. This is insufficient notice as persons, such as visitors, who do not regularly use the PRoWs will not have the opportunity to see these notices. The period for site notices should be extended to at least one month and full information should be available on a dedicated website.

45. The timing of the permanent closure of Footpath 6 (E-354/006/0) is not disclosed, but it would appear that pedestrians will be diverted along the side Grove Road and crossing the haul road during the extensive construction period. This is a significant loss of amenity to residents of Friston who regularly use FP6 for general exercise and to walk their dogs.

46. The Applicant has increased the amount of permanent footpath closures from 2 to 3 around the substation site. No reason has been given for the 3rd closure (E-260/017/0) other than "to follow a historic field boundary". This is uncharacteristically altruistic of the Applicant and it would seem more likely that the footpath is to be moved outside the onshore boundary to free up more space in the site for other purposes. The Applicant should provide a full supporting explanation for the permanent closure of part of PRoW E-260/017/0.

DCO

Draft Development Consent Order

https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003262-3.1%20EA1N%20Draft%20Development%20Consent%20Order%20(Tracked).pdf

47. SASES provided written representations at deadline 1 (2 November 2020) and yet the Applicants will not provide any comments until Deadline 4 (13 January 2021). SASES reserves its rights to comment on the revised draft DCO submitted at Deadline 3 until it has received the Applicants' comments on its written representations. Notwithstanding such a reservation SASES would make the following initial comments on the revised draft.

48. Article 33 - It would be appreciated if an explanation for the amendment to article 33 could be provided.

49. Article 38 – see comments on Schedule 16 below

50. Paragraph 38 of Part 3 of Schedule 1 - In the context of cumulative impact it should be noted that article 38 has been amended so that the grid connection works might be constructed under any other development consent order. The original drafting understandably only referred to each Applicant's respective DCO. The only motivation for such a change is that the Applicants (or more likely National Grid) envisage that a DCO for a project other than EA1N or EA2 will be applied for in the immediate future. This will also contain rights to construct the grid connection works at Friston and National Grid would prefer to exercise the rights under that other order rather than the rights being granted under the EA1N and EA2 DCOs. A reasonable conclusion is that the DCO application which National Grid Ventures is bringing forward will also contain the rights to construct the grid connection works which yet again indicates that the Friston grid connection works are a new National Grid connection hub.

51. Paragraph 41 of Part 3 of Schedule 1 – the Operational Drainage Management Plan must be submitted to and approved prior to the commencement of any works at the substation

site given the importance of that plan in mitigating a serious flood risk and given this plan will have implications for other works (not just work nos 30 and 41). For example work nos 33 (drainage works etc) 34 (permanent operational access road), the connected works, 38 (cable sealing end compounds etc), 39 (pylon realignments and new pylons) and the connected works.

52. Schedule 16 – given the importance to the local community of the discharge of requirements the applicant should be required to give notice of each application, including to affected parish councils, prior to an application being made for consent, agreement or approval and all information and documentation which is subject to such consent, agreement or approval should be made publicly available from the time such notice is given. Any other information and documentation which is provided to the discharging authority should be made publicly available as soon as it is provided to the discharging authority.

53. Schedule 16 – given the resources of some discharging authorities (which will also be subject to the demands of many other projects) and the likely complexities of some of the matters subject to discharge, a period of 10 business days within which to request further information is not reasonable given the overall period is 42 days. This period should be extended to at least 20 business days. In terms of appeals the deadlines to which the discharging authorities are subject should be similarly extended. In this context it should be remembered that there could be a significant mismatch in the resources between the undertaker and the relevant discharging authorities and extension of time periods should assist the fairness of the process.

APPENDIX 1

Landscape Briefing Note 5 prepared by Michelle Bolger Expert Landscape Consultancy

APPENIDX 2

East Anglia ONE North & East Anglia TWO Cultural Heritage Assessment – Addendum prepared by Richard Hoggett Heritage

APPENDIX 3

Flood Risk Related Comments on Deadline 3 Submissions prepared by GWP Consultants