

SPR EA1N and EA2 PROJECTS



DEADLINE 4 - COMMENTS ON APPLICANTS DEADLINE 3 SUBMISSIONS (CONSTRUCTION ISSUES)

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 in respect on construction related matters excluding the Applicants' comments on SASES' written representations which SASES made at Deadline 1 which are dealt with in a separate document. The fact that a comment has not made any particular submission should not be construed as SASES agreeing with the submissions made by the Applicants

Onshore Substations Update Clarification Note - Reference: EA1N_EA2-DWF-ENV-REP-IBR-001141 Document Reference: ExA.AS-11.D3.V1- dated 15th December 2020 REP3-057¹

2. The Applicant has included in table 3.2 (part copied below) the cut and fill site preparation calculations for various scenarios with differing finished ground levels.
3. SASES seeks clarification regarding the calculation that only 70 HGV movements will be required to achieve a finished level of 18.7m and 18.2m. The Applicant appears to have assumed all excavated material can be reused on site as the cut and fill calculations allow only for the resultant surplus material to be removed from site or as appropriate net imported fill as may be required.
4. SASES seeks clarification concerning the Applicant's expectations based on the footnote in their document that spoil will be removed from site and therefore whether all surplus excavated material ***can actually be re-used based on the cut and fill calculations shown in the table.***
5. If all excavated material is to be removed from site unlike the Applicant's calculation below (apart from retained topsoil for replacement to make up vegetation and site levels on completion) would therefore result in substantially more HGV movements than is shown below i.e., more than 70 HGV movements.

1

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003309-ExA.AS-11.D3.V1%20EA1N&EA2%20Onshore%20Substations%20Update%20Clarification%20Note.pdf>

Onshore substation – east	18.7m AOD	As per photomontages in the Applications MINUS 2.0m	72,998	74,390	1,392 (fill to be imported)	70
Onshore substation – west	18.2m AOD	As per the Deadline 3 photomontages / photomontages in the Applications (no change)				
National Grid substation	18.7m AOD	As per photomontages in the Applications (no				

6. A number of the other calculations shown in the table 3.2 (not copied above) show substantial amounts of excavated material being removed and/or fill imported to site. Using the above numbers assuming all material is to be removed from site and imported fill brought in, the number of HGV movements would be very different. The Applicant has assumed net exported or imported hardcore is the outcome of all site preparation. *This may well be an incorrect assumption particularly as ground levels are being reduced by 2m.*
7. SASES requests the Applicant to confirm its exact intent, and to undertake up front design work **now** to confirm the amount of spoil to be removed or material to be imported. There are too many assumptions in the Applicant's existing calculations, which in turn will be passed to a design and build contractor to resolve at a later date when it may well be too late to fully understand the implications of the application as it currently stands.
8. If we assume in the above table that all material will be removed and fill imported (taking into account ground levels are being reduced and therefore significantly more excavated material) the calculation would be as follows – 73K M3 of material removed and 74k M3 of material imported using the Applicant's numbers in the table above.
9. This would result in the following alternative calculation and modelling:-
 - a. 73,000 M3 excavation +74,000 M3 of fill = 147,000 M3/ 10M3 per HGV load = 14,700 HGV loads. This compares to the Applicant's quoted 70 HGV movements (based on a residual imported balance of 1,392 M3)
 - b. This can be further expressed over a 7 month initial site preparation term using the Applicants original vehicle movements as set out in the ***Traffic & Transport Cumulative Impact Assessment Document Reference: 6.3.26.2 dated October 2019.*** This is copied below.
 - c. If it is assumed based the Applicants 7 month Programme x 4 weeks per month x 5.5 days per week this equates to 154 working days.
 - d. Taking 14,700 HGV loads shown above /154 days = 95 HGV movements per day but taking into account that a vehicle either arrives full and leaves empty or leaves full and arrives empty there will be 95 x 2 = 190 HGV's leaving or entering the site **every**

working day which we must assume is an 8 hour day despite the applicant stating a working day is 12 hours.

- e. This means therefore if we adopt an 8 hour working day (rather 12 hours) x 60 mins per hour = 480 mins in a working day. **This equates to an HGV arriving or leaving the site every 2.52 minutes.**
 - f. In practice this would not work due to the health and safety of operatives or the impact on local roads that are incapable of taking so many large vehicles. All this will do is extend the construction period to accommodate so many vehicle movements to be filtered out over a longer construction programme.
 - g. If the Applicant's original vehicle movement calculations, **Table A26.1 - Daily Two-Way HGV Movements Per Month – Scenario one Traffic & Transport Cumulative Impact Assessment Document Reference: 6.3.26.2 dated October 2019** is used based on the original draft DCO before ground levels have been reduced the Applicant assumes **75 daily HGV movements over a significant number of months.**
10. SASES therefore seeks clarification why **only 70 HGV movements** have been stated in the table above, when the ground level is being reduced by 2m. It must therefore mean more excavation is required to be removed from site, therefore bringing the Applicant's calculation of 70 HGV movements into question.
11. Using the Applicant's original DCO model results in 75 HGV movements x 2 (in and out of the site based on 75 movements x by 2 for vehicles moving in each direction = 150 vehicles daily. This means a vehicle entering and exiting **the site every 3.2 minutes** (480 mins/150 vehicle movements).

Summary

12. In summary, how can the reviewer have any confidence that only 70 HGV movements are required based on an 18.2m finished ground level when looking at the calculations included in the documentation. Are they correct when there is conflicting data particularly when the Applicant assumes all excavation can be re-used on site?
13. The Applicant's 75 round trip daily HGV movements over many months based on the original DCO now becomes a total of 70 HGV movements when significantly more material is being excavated to reduce ground levels – even using the Applicant's own cut and fill numbers from the table results in 95 HGV daily movements based on the assumption (confirmed by the Applicant) that surplus spoil will be removed from site.
14. Regardless of the numbers shown in the various tables the revised submission needs to be reviewed, validated and/or corrected as appropriate and re-published as we have little confidence in the data provided.

Actions Required of the Applicant

15. SASES suggests that the Applicant undertakes a detailed site survey prior to approval so accurate cut and fill calculations can be determined so the Planning Inspectorate can have confidence in the data being presented and the resultant HGV movements. Whether vehicle movements onto and off the site is every 2.52 minutes or 3.2 minutes it demonstrates and reinforces the unsuitability of the site next to an ancient Suffolk village, the impact on the community, the impact on the environment from pollution, potential hazards, and the impact to health and safety on local rural roads etc.
16. The existing field drainage is also severely impacted as some of the existing field drains are above the newly excavated levels when the ground is lowered by 2m.
17. ***The above calculations are based on the works for one substation only and do not take into account the National Grid substation (and do not incorporate the additional substation should that also be approved).***
18. The proposals result in additional noise due to more excavation and disposal or filling, an increase in pollution, increases in NO₂, potentially making the flooding situation even worse, despite the Applicant's confirmation it will consult with the relevant Authority to agree onsite proposals.

Table A26.1 Daily Two-Way HGV Movements per Month - Scenario 1 (Extract)¹

Discrete sites	Months										∴	30	31	32	33	34	35	36
	1	2	3	4	5	6	7	8	9	10								
Landfall location	0	0	30	28	48	30	28	28	28	37	0	0	0	0	42	40	20	
Onshore cable route section 1	56	52	4	0	22	18	32	37	28	32	0	0	0	0	34	30	34	
Onshore cable route section 2	20	18	18	41	27	49	27	29	25	29	0	0	0	0	41	37	41	
Onshore cable route section 3	0	0	0	0	30	44	17	25	21	25	0	0	0	0	27	23	27	
Onshore cable route section 4	54	69	52	52	7	5	19	27	23	27	5	5	5	5	56	52	56	
East Anglia ONE North and East Anglia TWO onshore substations	0	0	0	58	75	73	68	52	75	76	3	8	3	3	33	30	30	
National Grid Substation and Infrastructure	68	45	47	47	45	45	42	30	28	9	18	33	33	33	37	35	37	
Total two-way * daily HGV movements accessing all discrete sites	198	184	151	226	254	264	233	228	228	235	26	46	41	41	270	247	245	
Key																		
	Peak period																	
*	Total two-way movements represent the inbound and outbound trip, i.e. 270 two-way movements equates to 135 arrivals and 135 departures																	

19. Examples below show how the existing drainage will be impacted by reducing ground levels and is one of the reasons why accurate land site level surveys and drainage surveys are required to give confidence a solution ***can be designed*** before approval of the DCO – this should be resolved prior to consent if its' given. This reinforces inappropriate site selection.
20. Friston has suffered severe flooding in previous years. The photographs below are within the substation development area following heavy rain in December 2020.

21. *The reduction to ground levels may marginally improve the visual impact of the substation, but conversely impacts on increased vehicle movements, pollution, health & safety concerns on existing rural roads and potentially increasing the incidence of flooding as existing de-watering ground water systems and drainage systems will be lost due to the lowering of existing ground levels.*





Outline Code Of Construction Practice (*Tracked*) - Version 02 [REP3-023]²

1. The Applicant has submitted an amended version of the OCoCP which mainly confirms the Applicant's commitment to carry out works in accordance its legal obligations and best practice. There does not appear to have been detailed surveys, site levels or pre- design works carried out to confirm what is being proposed can actually be delivered. As far as is apparent, there has been no detailed modelling on the impact on the local roads (some high level daily vehicle HGV movement numbers were shown in the original DCO). Now that a proposal to reduce ground levels by 2m to marginally reduce visual impact is being proposed it's important some significant validation work is carried out to give provide confidence in what is being suggested. The Applicant is handing down to its supply chain to deliver the project legally which is no more than we expect in the UK taking into account British Standards and construction law. We need to see the facts that support the delivery model prior to consent.
2. SASES requests the Applicant undertakes due diligence particularly to validate cut and fill requirements and HGV movements, noise modelling at receptor sites, pollution levels, flooding and NO2 analysis rather than passing all requirements to its supply chain. There appears to be inconsistency in approach particularly in some of the tables and documents – further details are provided below in the SASES section B below. Some of the modelling and analysis is absolutely fundamental to understand the impact of excavation, vehicles on local roads, significant dust and particulate emissions as well as the loss of existing surface water drainage at the substation site due to reducing site levels. The Applicant should undertake this in principle design work ahead of consent to give residents, the Planning Inspectorate and those impacted by the works some degree of comfort that the adverse effects of such significant infrastructure projects can be partially mitigated. SASES expects further information regarding noise will be made available by the Applicant in due course.
3. As set out in para 2.5.3 SASES notes it's the Applicant's intention to appoint a Community Liaison Officer to support local communications. In addition, SASES suggests that a group distribution email network could be set up for those people who wish to join such a group, by invitation only, to hear about plans in connection with the project and particularly when local people may experience noisy work in advance for the substation site and the cable corridor. Key milestones and deliverables that may impact on local people and local roads could therefore be communicated in advance.
4. It's noted as set out in para 3.1.2 there have been no amendments to the proposed working hours as requested in previous Written Representations. SASES has previously suggested working hours should be restricted between 0800 – 1600 Monday to Friday and requested no working at weekends. We ask again for the Applicant reconsiders its position. Other energy projects may have been operational from 0700 – 1900 and 0700 - 1300 Saturday but those specific sites were not on the edge of a village and therefore did not impact on local communities to the extent that the Friston site and the cable corridors will be impacted by local people and their peaceful lifestyles. In addition, SASES requested that the construction working times referred to should also mean that HGV movements should not be allowed to

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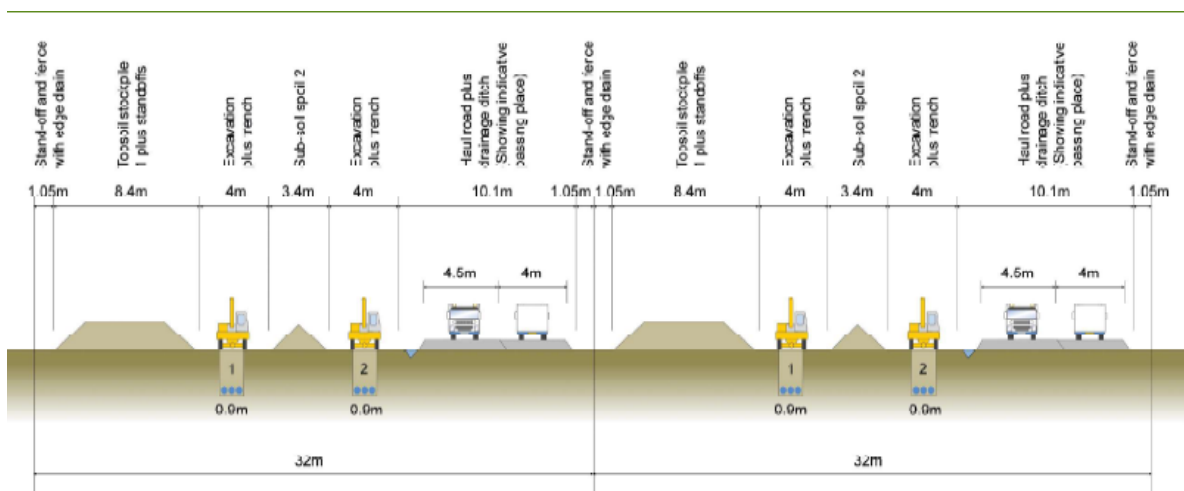
[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003273-8.1%20EA1N%20Outline%20Code%20of%20Construction%20Practice%20\(Tracked\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-003273-8.1%20EA1N%20Outline%20Code%20of%20Construction%20Practice%20(Tracked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

be on local roads before the site commencement times (to be agreed and to be reconsidered by the Applicant).

5. In section 3.7 Artificial Light Emissions, SASES requests that on a project of this magnitude temporary generators should never be used unless there is a catastrophic loss of power. If generators start up particularly during the night this would have a significant impact on local communities particularly as there is little or no background noise during the night. The Applicant is an energy business – it should therefore be supplying power through power lines rather than ever having to rely on temporary power generation.
6. It is further noted that the Applicant has mentioned it will provide hoardings – again this is just good practice. SASES requests that due to the proximity to the affected village that any work carried out either on the substation site or along the cable corridor, will adopt the use of acoustic baffles to reduce noise.
7. Section 8.2 and section 14 refers to monitoring and site inspections. SASES requests that all plans for monitoring and agreement of receptor sites in particular for noise, should be agreed in advance and prior to consent by the relevant Local Authority or Planning Authority
8. As set out in section 9.1, Noise and Vibration Management, any areas particularly sensitive to noise where mitigation plans are required, SASES requests that those plans should be agreed in advance with the relevant independent experts and the Local Authority or Planning Authority prior to consent.
9. Further requests for clarification concerning cut and fill (excavation and imported hardcore) are set out in the accompanying SASES Onshore Substations Update Clarification Note.

ExA.AS-10.D3.V1 EA1N&EA2 Onshore Cable Route Works Programme Clarification Note - Version 01 [[[REP3-056](#)]]

1. The Applicants have not made a commitment to install ducting along the whole cable corridor for the first project in Scenario2 or for either project in Scenario 1.
2. It is understood that either method of cable installation (Direct burial or Ducted) brings benefits and dis-benefits and that the decision on which is the 'better design' may involve tradeoffs between safety, traffic disruptions, space availability, duration and complexity of construction, ease of maintenance on the one side and costs on the other. It would be useful to understand the Applicants' reasoning and justification for choosing Direct Burial as the preferred / default design.
3. This document has omitted to clarify the Applicants' purpose in, or the necessity for, building two separate haul roads if Scenario 1 (EA1N and EA2 constructed concurrently) as illustrated by SPR – see below.
4. This note does not address the need for EMF shielding for pedestrians walking or standing along the roadside pavements directly above High Voltage cables at cable swathe crossing places near Gipsy Lane and where crossing PROWs.



East Anglia TWO and East Anglia ONE North Indicative cable trenching arrangement and working area

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ExA.AS-12.D3.V1 EA1N&EA2 Construction in Proximity to Properties - Version 01
[REP3-058]

1. In preparing this Note, it would appear that the Applicants have at this very late stage recognised that their earlier Site Selection and Cable Corridor Routing decisions will have a damaging impact on occupiers of properties, in particular residential dwellings.
2. Although a buffer distance criterion was applied during Substation Site Selection, unlike other Developers, the Applicants have not applied any minimum buffer distance criterion. when deciding on cable corridor routing.
3. Surprisingly, there is no quantitative definition of what the Applicants mean by 'proximity' with respect to Cable Corridor Construction.
4. These failings have led to cable corridor order limits being as close as 20 metres from certain residential titles with the Applicants' claiming that the impact construction noise and disturbance would be NO IMPACT - NEGLIGIBLE/ MINOR significance. That evaluation is not credible.
5. Re: **1.4 Mitigation**, Para 15 of this Paper, the Applicants state that 'jointing bays will not be constructed within 55m of a residential dwelling'. That 55m buffer distance seems arbitrary and unnecessarily low given that there are so few (7?) clusters of residential properties within 100m of the Corridors along 9Km between landfall and Friston.
6. The IAQM guidance (IAQM 2014) states that a Detailed Assessment is required where there are human receptors within 350m of the site boundary and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s). We have not found that assessment with these applications.
7. Re: **1.7 Consultation and Communication during Construction, Para 27, previous** communication from the Applicant and PINS directed to the local Parish Councils has not been reliably communicated to residents affected. Parish Councils are not always sufficiently resourced or able to do so. The Applicants are asked to implement a system of direct email updates to those local residents who opt to enrol with the Applicants for regular updates on that information referred to in Paras 25 and 27, including the same information sent to Parish Councils.

ExA.AS-3.D3.V1 EA1N Outline Watercourse Crossing Method Statement - Version 01
[REP3-048]

1. This document provides a useful description of the open trench method proposed by the Applicants, but it does not provide information on other engineering options or a comparison of this open trench method with alternative trenchless crossings as implied by the commitment made at 1.2.66 of **Applicants' Responses to Examining Authority's Written Questions Volume 4 – 1.2 Biodiversity Ecology and Natural Environment - Rev - 001** **[REP1-107]** :-

"That further information on the options considered will be presented within the Outline Watercourse Crossing Method Statement which will be submitted to Examination at Deadline 3".

2. Appendix 4 does not provide a comparison (pros and cons) for the various engineering methods that might be used and it does not make clear whether the Applicants considered a "Microtunnelling" option when listing the disadvantages that they would anticipate from a trenchless crossing at that location.
3. It is not stated in this or other Submissions by the Applicants whether the Applicant has considered the full potential that might be achievable through the application of microtunnelling at the R. Hundred / Aldeburgh Road crossing place. No evidence has been presented on the feasibility and likely advantages and disadvantages from installing one single approximately 300 metres (microtunnel) length of cable ducts under all of the River Hundred, the adjacent Flood Zone Level 2, the B1122 Road and woodland to the east and west of Aldeburgh Road. In theory, such a solution might avoid damage to local landscape through removal of trees, obviate disturbance and traffic delays at the road crossing and serve to avoid risk of ecological damage at the river crossing.
4. SASES intends to respond more fully to this document at Deadline 5.