



SPR EA1N and EA2 PROJECTS

DEADLINE 7 - RESPONSES TO APPLICANTS D6 COMMENTS ON SASES D5 SUBMISSIONS

Interested Party: SASES PINS Refs: 20024106 & 20024110

Date: 4 March 2021

Issue: 1

Introduction

1. The following responses are made on the Applicants' Comments on SASES' D5 submissions to which SASES has only responded by exception.
2. The fact that SASES has not responded to any particular comment made by the Applicants does not mean that SASES agrees with the comment. SASES will continue to rely on its Written Representations and its subsequent submissions.

ID	TOPIC/DOCUMENT	SASES COMMENTS
SUBSTATION DESIGN PRINCIPLES STATEMENT		
2-18		<p>Several of the Applicants comments have crossed with clarifications and corrections provided by SASES Deadline D6 submissions, or are repeats of previously made arguments. These are therefore only summarised below for reference:</p> <p>a) The requirement for the Applicants substations to be close to the existing OHLs is not correct, a distance of up to 5km from the target NGET substation is acceptable without the likelihood of reactive compensation equipment being required. Previously raised by SASES in connection with Site Selection and Grid Connection.</p> <p>b) SASES continues to assert that the involvement of independent third party power engineering expertise as part of the design review process could lead to a better and more transparent outcome. The Applicant seems</p>

		<p>intent on replicating the EA1 electrical design regardless, without considering other potentially better options for what is agreed to be a far more sensitive location.</p> <p>c) According to the ES description the Hornsea One substation <u>does</u> include reactive compensation equipment and is therefore a worthwhile comparator with the Applicant's EA1N and EA2 proposals as well as being a justifiable basis for NGESO's 2.1ha benchmark footprint for an 800MW HVAC substation.</p>
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CLARIFICATION NOTE NOISE MODELLING [Rupert Taylor]

20	DCO Noise Limits	<p>The statement that “Noise attenuation afforded by the walls and windows of a building envelope typically reduces received noise levels from external noise sources indoors by 10-15dB accounting for a partially open window (as per BS8233:2014 and World Health Organisation guidelines (WHO, 1999))” contrasts with the assumption made in the “East Anglia ONE Operation Phase Noise Monitoring Report” 3rd February 2021. That report takes the outside-inside correction as a minimum of 19 dB because it assumes a ventilation opening of only 0.05m². Acknowledgement that it is appropriate to assume that the outside-to-inside reduction is much less than 19 dB is welcome.</p> <p>The WHO recommendations about internal noise levels are based primarily on research into the effects of transportation noise sources, which are broad-band and not significantly tonal or of predominantly low frequency. The 1999 WHO Guidelines were partially superseded by the 2018 Environmental Noise Guidelines for the European Region (in the drafting of which Rupert Thornely-Taylor was a member of the External Review Group). The internal noise recommendations in the 1999 Guidelines, which survive, are all traceable to research into the effects of transportation noise, not noise from an electricity substation. The 1999 WHO guidelines say (3.9) “The evidence on low-frequency noise is sufficiently strong to warrant immediate concern. Various industrial sources emit continuous low-frequency noise (compressors, pumps, diesel engines, fans, public works); and large aircraft, heavy-duty vehicles and railway traffic produce intermittent low-frequency noise. Low-frequency noise may also produce vibrations and rattles as secondary effects. Health effects due to low-frequency components in noise are estimated to be more severe than for community noises in general (Berglund et al. 1996). Since A-weighting underestimates the sound pressure level of noise with low-frequency components, a better assessment of health</p>
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		effects would be to use C-weighting.”. Low frequency noise is defined in the Defra-funded Salford University Report “A procedure for the assessment of low frequency noise complaints” as noise in the range 20-160Hz, and that report recommends an unweighted criterion value of 38 dB indoors at 100Hz, equivalent to 18.9 dBA after applying the 19.1 dB A-weighting at 100Hz if the noise is predominantly contained in the 100Hz 1/3 octave band. To achieve this for the range of window conditions the applicant now considers gives an outdoor criterion of 28.9 dBA.
21	Updated Noise Modelling	It is not necessary to model “every single permutation of noise associated with variable meteorological conditions”. It is simply necessary to model the conditions most favourable for noise propagation from source to receiver. It is correct to say “that ISO 9613-2 provides a calculation method for predicting sound levels under meteorological conditions most favourable for the propagation of sound, namely mild downwind or temperature inversions.” By inspection of the predictions which the applicant has provided it appears that the method for predicting sound levels under meteorological conditions most favourable for the propagation of sound has not been used.
22	Data sources and characteristics	The statement that “The Applicants reiterate that once 1/3 Octave spectral data becomes available an assessment of tonality will be undertaken” is at odds with the statement in ID 20 that “With regard to EN-1, the Applicants note that this also requires projects to be ‘deliverable’ which the Applicants have sought to achieve through significant early engagement with the supply chain to establish a solution that minimises environmental impact whilst ensuring the deliverability of the Projects.” As they do not have spectral data and do not know whether a 6 dB tonal penalty will apply, they have self-evidently not established a solution that minimises environmental impact. It is true to say that the applicants must ensure that the operation of the onshore substations does not exceed the maximum operational noise rating limits, but if powers are granted it is necessary to establish that reliable engineering means exist for achieving the necessary noise attenuation. Powers should not be granted on the basis of noise limits unless they have been shown to be achievable.
23	National Grid Infrastructure	Because the definition of noise rating level in BS 4142 requires the removal of the contribution of residual sound it needs to be made clear whether, in the required monitoring process for EA1N and EA2, noise from the National Grid Infrastructure will be treated as residual noise and removed from the calculation of specific sound level.

24	Revised operational noise assessment	<p>If the applicant's use of background noise measurements is to survive scrutiny, the reason for rejecting the results for SSR9 must be logical and appropriate. The applicant's response firstly tends to suggest that the background noise measurements relied on are affected by the presence of facades, which would be incorrect according to BS 4142 which requires measurements to be taken so as to minimise the influence of reflections. The distance between the SSR9 measurement position and a façade cannot be an explanation for low levels unless there is a noise source near the façade, which for residential buildings is unlikely to be the case. Secondly, distance from the locations of proposed noise sources has no relevance as those locations are currently open fields that do not normally emit noise. The distance to local sources such as roads is not relevant as the roads in the area are not so highly trafficked as to affect the L_{A90} materially – the passage of vehicles would only affect L_{A10} and L_{Aeq}. There is currently no reasonable explanation for rejecting the background noise measurements at SSR9.</p>
25		See response to ID24
26		See response to ID24
27		See response to ID22
28		<p>Not omitting the under-range results is not a precautionary approach. The precautionary approach would be to take steps to discover what the true background noise is after removing the influence of instrument self noise which invalidates the results and causes them to be under-range.</p> <p>SASES have considered absolute sound levels in their Deadline 5 response, and also in the response to ID20 above.</p>

29		See response to ID22 and ID24
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CLARIFICATION NOTE SUDS INFILTRATION NOTE AND OUTLINE OPERATIONAL DRAINAGE MANAGEMENT PLAN

30 - 33		See comments on the Outline Operational Management Plan submitted by the Applicants at Deadline 6. These are set out at Appendix 1 to Comments On Applicants Deadline 6 Submissions Submitted At Deadline 7 . These matters will be further discussed at ISH11- Flood Risk and Drainage
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APPLICANTS COMMENTS ON SASES DEADLINE 3 SUBMISSIONS

Application and relevance of Schedule 9 Electricity Act 1989, Section 9 Electricity Act and Alternatives

46 - 54		The Applicants' comments are noted and SASES will respond at Deadline 8.
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Landscape and Visual – Landscape Briefing Note, Pages 1 & 2

68		As noted with regard to the Applicants' answer to ExA question 2.10.11 the uncertainty over the scheduling of the individual substations means that uncertainty remains over the length of the construction period and consequently the date at which the vast majority of the mitigation planting within the OLEMS would be undertaken.
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69		The Applicants accept that it is an expectation and not a commitment that the National Grid substation, cable sealing ends etc will be constructed in parallel with one or both of the onshore substation(s). There has been no assessment of the implications of it being constructed in advance of the onshore substation(s).
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70		<p>The Applicants' lack of a commitment to avoid a delay between construction of the onshore substations means that the uncertainty over the length of the construction period remains.</p> <p>It is unclear what the is being referred to when the Applicants note that '<i>strategic landscape planting will be delivered during construction of the first project.</i>' I assume this refer to what is described elsewhere as the '<i>early planting</i>', as the vast majority of the mitigation planting cannot be implemented until all construction works have been completed. Consequently, the first substation and the NG substation could be in place for more than three years before the main mitigation planting was even planted.</p>
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71		The Applicants confirm that the uncertainty over both the length of the construction period and the date on which the vast majority of the mitigation planting can be implemented remains.
2.3 FURTHER COMMENTS ON APPLICANTS OUTLINE WATERCOURSE CROSSING METHOD STATEMENT		
76	Alternative “trenchless” options	<p>Applicant has replied: “When accounting for the additional lateral distance required to reach sufficient depths to drill beneath the bed of the Hundred River, beneath the B1122 Aldeburgh Road and underneath the woodland west of Aldeburgh Road, the Applicants calculate a drill length of at least 500m.</p> <p>From SASES’s understanding of the differences between HDD and microtunnelling, it would appear the Applicant is referring to HDD not Microtunnelling techniques?</p> <p>Please refer also to SASES Deadline 7 responses to</p> <ul style="list-style-type: none"> • Applicants’ Oral Case on ISH7 Biodiversity & Habitats and <p>SASES Deadline 7 Comments on Outline Watercourse crossing methodology v02</p>
2.4 COMMENTS ON POST HEARING SUBMISSION (ISH6)		
78 - 103	dDCO	SASES note the comments by the Applicants. The draft DCO has become something of a moving target given ISH9 and the related post hearing submissions by various parties. Further a new draft DCO is awaited at Deadline 7. Accordingly SASES will await the revised draft DCO and any comments by the Applicants on its Post ISH9 submission before making further submissions in respect of the draft DCO.