East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on Substation Action Save East Suffolk's Deadline 12 Submissions

Applicant: East Anglia TWO and East Anglia ONE North Limited
Document Reference: ExA.AS-10.D13.V1
SPR Reference: EA1N_EA2-DWF-ENV-REP-IBR-001146

Date: 5th July 2021
Revision: Version 01
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Applicable to East Anglia ONE North and East Anglia TWO

Revision Summary				
Rev	**Date**	**Prepared by**	**Checked by**	**Approved by**
01	05/07/2021	Paolo Pizzolla		

Description of Revisions			
Rev	**Page**	**Section**	**Description**
01	n/a	n/a	Final for Submission

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Glossary of Acronyms

AIS	Air Insulated System
CIA	Cumulative Impact Assessment
CION	Connection and Infrastructure Options Note
CoCP	Code of Construction Practice
DCO	Development Consent Order
Defra	Department of Environment, Food and Rural Affairs
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
ES	Environmental Statement
ESC	East Suffolk Council
ETG	Expert Topic Group
ExA	Examination Authority
ISH	Issue Specific Hearing
LLFA	Lead Local Flood Authority
LMP	Landscape Management Plan
MHCLG	Ministry of Housing, Communities and Local Government
NGET	National Grid Electricity Transmission
NGV	National Grid Ventures
NPPF	National Planning Policy Framework
NPS	National Policy Statement
OFTO	Offshore Transmissions Owner
OLEMS	Outline Landscape and Ecological Management Strategy
OODMP	Outline Operational Drainage Management Plan
PRoW	Public Right of Way
RSPB	Royal Society for the Protection of Birds
SASES	Substation Action Save East Suffolk
SCC	Suffolk County Council
SEAS	Suffolk Energy Action Solutions
SLA	Special Landscape Area
SuDS	Sustainable Drainage System

Glossary of Terminology

Applicant	East Anglia TWO Limited / East Anglia ONE North Limited
Cable sealing end compound	A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Cable sealing end (with circuit breaker) compound	A compound (which includes a circuit breaker) which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
The Councils	East Suffolk Council and Suffolk County Council
Development area	The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order).
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia ONE North windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order but will be National Grid owned assets.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO / East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order.
National Grid substation location	The proposed location of the National Grid substation.

Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.
Onshore infrastructure	The combined name for all of the onshore infrastructure associated with the proposed East Anglia TWO / East Anglia ONE North project from landfall to the connection to the national electricity grid.
Onshore preparation works	Activities to be undertaken prior to formal commencement of onshore construction such as pre–planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations.
Onshore substation	The East Anglia TWO / East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
Onshore substation location	The proposed location of the onshore substation for the proposed East Anglia TWO / East Anglia ONE North project.

1 Introduction

1. This document presents the Applicants' comments on Substation Action Save East Suffolk's (SASES) Deadline 12 submissions as follows:

- SASES' Responses to the Examining Authority's Rule 17 Questions of 18th June 2021 (REP12-116);
- SASES' Comments on the Applicants and National Grid Electricity Transmissions Responses to the Commentary on the draft DCO (REP12-123);
- SASES' Comments on the Applicants' Hundred River Ecology Survey Report (REP11-063) (REP12-117);
- SASES' Deadline 12 Submission on Flood Risk (REP12-118);
- SASES' Comments on the Applicants' Responses to the Examining Authority's Written Questions 3 (ExQ3) (REP12-121);
- SASES' Comments on Responses to Examining Authority's Written Questions 3 (ExQ3) in respect of Cumulative Impacts (REP12-120);
- SASES' Comments on National Grid Ventures' Responses to Examining Authority's Written Questions 3 (ExQ3) in respect of Cumulative Impacts (REP12-125);
- SASES' Comments on National Grid Electricity Transmissions (NGETs) Responses to Issue Specific Hearing 16 Action Points (REP12-119);
- SASES' Comments on the Applicants' Deadline 11 Submissions in Respect of Issue Specific Hearing (ISH) 16, ISH 17, Substations Design, Landscape and Heritage Gas-Insulated Switchgear (GIS) Addenda (REP12-122); and
- SASES' Deadline 12 Submission in Respect of Costs (REP12-124).

2. This document is applicable to both the East Anglia TWO and East Anglia ONE North Development Consent Order (DCO) applications (the Applications), and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's (ExA's) procedural decisions on document management of 23rd December 2019 (PD-004). Whilst this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it for the other project submission.

2 Comments on SASES' Deadline 11 Submissions

2.1 SASES' Responses to the Examining Authority's Rule 17 Questions of 18th June 2021 (REP12-116)

ID	SASES' Comment	Applicants' Comments
INTRODUCTION		
1	1. There is set out below SASES' responses to R17Q .7 and R17QF.10 from a landscape and historic environment perspective. These responses have been prepared by SASES experts, Michelle Bolger in respect of landscape and Dr Richard Hoggett in respect of historic environment.	Noted. Please refer to the Applicants comments at ID2 to ID9.
R17QF.7 (c), (d) and (e) – Landscape Response		
2	2. SASES drainage consultant has been pointing out for some time that the woodland within the SUDS basins, described as 'wet woodland' would be incompatible with the use of the basin for drainage. In addition to the incompatibility SPR have accepted that the conditions for wet woodland would not be present, and it has been omitted from the Outline Landscape and Ecological Management Strategy (OLEMS) 11th June Revision: Version 06 (OLEMS). As SASES have been pointing out for some time, there have been significant 'drought' periods in the recent past in this part of East Anglia and it is reasonable to suppose that they will occur in the future.	The Applicants note that wet woodland was included within the earlier iterations of the Outline Landscape Mitigation Planting (OLMP) plans within the ***Outline Landscape and Ecological Management Strategy*** (OLEMS) (document reference 8.7) following discussions with the Landscape and Visual Expert Topic Group (ETG) prior to submission of the Applications. The purpose of the wet woodland within the basins was to provide ecological enhancement. However, following a clear direction from Suffolk County Council (SCC) as the Lead Local Flood Authority (LLFA) during ISH 16, the wet woodland has been removed from the sustainable drainage system (SuDS) basins. SASES' assertion that the Applicants removed the wet woodland having *"accepted that the conditions for wet woodland would not be present"* is incorrect and unfounded. The Applicants have never treated wet woodland as an integral element of the landscape planting proposals, which provide mitigation through the screening.

ID	SASES' Comment	Applicants' Comments
		Its removal does not reduce the effectiveness of visual screening which will be achieved through delivery of the OLMP.
3	3. The approach to planting in and around the SUDS basins is an example of the over optimistic approach adopted by SPR with regard to the planting generally. OLEMS Figure 3 has presented a visually misleading view of the SUDS basins suggesting that they would be 'soft' features in the landscape. It is possible that they may be engineered structures. The issue of whether the basins will require bunding has deliberately been left vague although it is shown on OLEMS Figure 4. Depending on their construction the basins may have more in common with the adjacent substations that the landscape that they are replacing.	As noted in the ***Applicants' Responses to Rule 17 Questions of 18 June 2021*** (REP12-056), the 'bunding' being referred to is in fact the 'batter slopes' shown on the plans and cross sections within ***Appendix 5*** of the ***Outline Operational Drainage Management Plan*** (OODMP) (document reference ExA.AS-13.D13.V7). These plans and cross section demonstrate what will typically be required. As noted in the ***Applicants' Responses to Hearings Action Points (ISH16 and ISH17)*** (REP11-082), design of the SuDS basins is very flexible, and they can be tailored to sensitively reflect the surrounding area / landscaping proposals. Rather than 'engineered structures', they are most likely to be close cut grass depressions and could be planted with wild meadow grass or small shrubs. There is unlikely to be a requirement for fencing around the basins, but they will be signposted to inform people of their function and warn that they may contain up to 1m of water during extreme rain events (it should be noted that during normal dry conditions the basins would not contain water). Any batter slopes will be designed as water retaining structures to the appropriate design standard, but are likely to be created from onsite excavation materials and will also be planted with grasses. It is absurd for SASES suggest that the SuDS basins have more in common with the adjacent substations than the landscape that they are replacing.
4	4. It is unclear why the southern basin has been rotated and it is also unclear why the woodland is shown immediately adjacent to the bund of the northern basin but at some distance from the bund of the southern basin. SASES consider that access to the bunds for	The SuDS basin designs and landscape masterplan are outline at this stage. The final basins may be micro-sited, reorientated, resized and/or reshaped in order to maximise infiltration and to reflect the final design of the substations and landscaping. The current iteration of the basins was in response to the ***Infiltration Test Results (May 2021)*** (AS-129)) and was made without any

ID	SASES' Comment	Applicants' Comments
	maintenance will not allow woodland planting to extend to the toe of the bund.	changes to the OLMP to ensure the effectiveness of the proposed screening planting is not diminished.
R17QF.7 - Historic Environment Response		
5	5. The removal of the previously proposed wet woodland from within the proposed SuDs basins has two potential impacts upon the historic environment.	The removal of wet woodland has no effect on the historic environment. Wet woodland is not, and has never been an integral element of the landscape planting proposals and as such its removal does not reduce the effectiveness of any of the screening that would be achieved through delivery of the OLMP.
6	6. The first of these concerns the impact which the overall development has upon the settings of the surrounding heritage assets. As has been discussed at length in previous submission, one of the primary concerns is the significant change in the landscape character within the settings of these heritage assets, from an agricultural landscape to a heavily developed semi-industrialised landscape. While the primary focus has been on the substations, the surrounding infrastructure, pylons and access roads will also contribute to this change of character, and the SuDs basins are an intrinsic part of this infrastructure. If these structures are to be engineered and bunded on their downslope sides, as the submitted plans suggest they are, then these basins will be read as another artificial element within this semi-industrialised landscape, which will in turn have the effect of extending the developed part of the substation complex further to the west.	The Applicants consider that SASES is misinterpreting the character of the operational SuDS basins and how they will be designed to integrate with the Applicants' landscape planting and ecological mitigation proposals. To a large degree the landscape planting proposed for the surrounding area will screen the basins in views towards the National Grid substation and onshore substations. The absence of small areas of wet woodland within the footprints of the basins will not be noticeable and does not influence landscape planting in screening views of the National Grid substations and onshore substations. As noted, wet woodland has never been an integral element of the landscape planting proposals and was not proposed for screening purposes. The Applicants would add that in its response to R17QF.7 on the removal of the wet woodland from the OLMP (REP12-086), Historic England notes that "*We do not have any specific comments in this regard"*.
7	7. The second potential impact arises from the removal of woodland planting which was included in the OLEMS in order to soften and disguise the SuDs basins themselves, helping to reduce the effect described above, but also to create additional areas of woodland screening to help reduce the visual impact of the substations when	The Applicants consider that SASES is misinterpreting the purpose of, and has placed excessive importance on the wet woodland within the SuDS basins. The wet woodland was added to the SuDS basins following discussions with the Landscape and Visual ETG prior to submission of the Applications. The purpose of the wet woodland within the basins was to provide ecological enhancement.

ID	SASES' Comment	Applicants' Comments
	viewed from the west, in the case of heritage, particularly from Friston House and Woodside Farmhouse. The applicant's own heritage assessments already conclude that the proposed planting will do little to mitigate the identified heritage impacts anyway, but the further reduction of planting only has the potential to make this situation worse.	As noted, wet woodland is not, and has never been an integral element of the landscape planting proposals and as such its removal does not reduce the effectiveness of any of the screening that would be achieved through delivery of the OLMP.
R17QF.10 - Historic Environment Response		
8	8. The indicative construction surface water drainage scheme illustrated in the Outline Code of Construction Practice is one of few documents submitted by the applicants which gives an impression of the scale of the works associated with the construction of the complex. With regard to the potential impact upon surrounding heritage assets, there is a fundamental contradiction in the submitted application documents between those sections of the Environmental Statements which clearly identify a detrimental impact on heritage assets which will be caused by the construction, operation and decommissioning of the onshore infrastructure, and the applicants' submitted assessments of heritage impacts, which focus only on the impact of the operational phase of the scheme and do not consider the likely impacts which are due to be caused by the construction or decommissioning of the schemes' infrastructure.	The Applicants note that, as is the case for most proposed developments, indirect construction effects on the setting of heritage assets were scoped out of the Environmental Impact Assessment (EIA). ***Appendix 24.1*** of the ES (APP-512) notes that SCC and Suffolk Coastal District Council (now East Suffolk County Council (ESC)) (the Councils) acknowledged that: *"The impacts arising during construction/decommissioning would be temporary and of sufficient short duration that they would be unlikely to give rise to material harm to above ground heritage assets"*. The Applicants would add that in its response to R17QF.10 on the indicative construction drainage scheme (REP12-086), Historic England notes that *"the Examining Authority need to be assured that this area will be subject to archaeological mitigation prior to construction as per the terms of the Onshore WSI"*.
9	9. The construction compounds and construction drainage basins depicted give a clear impression of the larger footprint which the construction phase will occupy, and emphasise that the works will be in much closer proximity to the adjacent heritage assets than the narrow focus on the operational phases suggests. In particular, the southernmost construction drainage basin is in very close proximity	The Applicants refer to their response to R17QF.10 within the ***Applicants' Responses to Rule 17 Questions of 18 June 2021*** (REP12-056). As noted above, the Applicants considered potential construction phase effects on the setting of heritage assets early during the EIA. It was agreed with SCC that such impacts were short-term and temporary (see ***Appendix 24.1*** of the ES

ID	SASES' Comment	Applicants' Comments
	to Woodside Farm and the grounds of Friston House, resulting in a greater impact upon the setting of these heritage assets during the construction phase. In their submitted heritage assessments, the applicants have sought to dismiss the construction works as temporary and scoped them out on that basis, but SASES have consistently stated that the construction phase is due to last for an uncertain period of many years and the proposed working area covers a significantly larger footprint than the operational phase of the proposed schemes. In many cases, the boundaries of the construction area lie in very close proximity to heritage assets, where they will arguably have a much greater impact than some of the later, operational phases of the proposed scheme. This is a clear failure on the part of the applicant to adequately quantify and assess the heritage impacts across the full duration of the scheme.	(APP-512)) and therefore construction phase effects were scoped out of further assessment. The assessment focusses on the longer-term, operational impacts of the Projects in relation to the setting of onshore heritage assets. The Applicants note that the illustrative drainage management scheme presented within the ***Outline Code of Construction Practice*** (Outline CoCP) (REP12-021) is indicative. As such, the arrangement, layout and placement of drainage basins shown in ***Figure 2, Appendix 2*** of the ***Outline CoCP*** (REP12-021) is subject to change during the detailed design phase. It is noted that the surface water basins shown are those required for the parallel construction of both Projects. The arrangement shown is therefore in place for a shorter duration compared to the sequential construction of both Projects, whereas under a sequential construction scenario, the surface water infrastructure will be less than that shown for the parallel construction given the reduced construction footprint being managed.

2.2 SASES' Comments on the Applicants and National Grid Electricity Transmissions Responses to the Commentary on the draft DCO (REP12-123)

ID	SASES's Comment	Applicants' Comments
1	1. In REP11-081, the Applicants responded to the suggested changes to the dDCOs in respect of operational land (OL). There are two issues: a. The uncertain extent of OL created by the dDCOs; b. The potential wide extent of permitted development rights which arise on such OL.	a. Operational land is defined in law. The Applicants have explained why the operational land will be limited to land that meets the legal definition (Sections 263 and 264 of The Town and Country Planning Act 1990)). As National Grid Electricity Transmission (NGET) has explained it will only be given rights to the land required to construct the infrastructure necessary to connect these projects. The land beyond these areas would not be held by NGET. Neither the Applicants nor a subsequent Offshore Transmission Owner (OFTO) would have Permitted Development rights to expand a National Grid Substation. It is not within their undertaking. b. The Permitted Development rights granted by Parliament are necessary to maintain the operation of the transmission and distribution network (see ID18 and ID20 of ***Applicants' Responses to the ExA's Comments on the Draft DCOs*** (REP11-081)).
2	2. At ISH17, SASES explained the continuing problems with the proposed approach to the identification of OL including the discretion given to the promoter to identify its extent. Those submissions are not repeated here: see REP11-175.	This is not accurate. Operational land is a matter defined by law. See ID1 above.
3	3. The Applicants (and NGET, REP11-117) are wrong to suggest that, since OL is "defined by law", the dDCOs should be silent on the issue. The Applicants seek, on behalf of themselves and NGET, to compulsorily acquire substantial areas of land for future use in connection with electricity undertakers. The terms on which future	SASES are wrong on this matter. The powers sought in terms of the order are very specific. Article 18 restricts the compulsory acquisition to order land required for the authorised project or to facilitate or is incidental to it.

ID	SASES's Comment	Applicants' Comments
	development of that land can occur are of great significance, and go to the heart of a number of environmental issues which have arisen during the examinations. The fact that OL has a legal definition does not prevent a DCO from deeming a certain extent of land to be OL for the purposes of the order in question. The dDCOs expressly seek to engage the OL definition through defining the orders as specific planning permissions (Article 33). The way in which the OL legal regime applies is therefore regulated by the dDCOs and it is open to the Secretary of State to define the way in which that regime applies.	Any operational land must meet the various legal definitions. All that Article 33 does is to confirm that the order is be treated as a specific planning permission.
4	4. Given the significant effects of development in this location, the flexibility sought in the dDCOs in terms of the location and siting of infrastructure, and the broad legal definition of OL, there is a compelling case for the extent of OL to be defined. The submission of a plan would go some way to achieving that, but OL should be limited to compound areas. This would ensure that, for example, areas of landscaping or parking could not be developed for the purposes of the undertakings, and nor could substantial expansion of the substation sites (and in particular the NG substation) without planning applications being submitted.	The examples provided by SASES demonstrates why the plan is not required. Landscaping does not meet the legal definition of operational land and any ancillary car parking will be located within the substation fencing.
5	5. SASES supports the continued request of ESC to remove permitted development rights (REP11-109 and 11-111) and endorses its submissions. Such a requirement is reasonable and necessary given the potential effects of expansion of electricity infrastructure in this location. The proposed approach does not affect the ability of NGET or the windfarm undertakers to maintain and upgrade their equipment, but would prevent its substantial expansion without proper scrutiny through the planning process.	The Applicants note but disagree with the position. It is notable that notwithstanding that the Applicants have set out very clear problems in seeking to remove the Permitted Development rights, SASES have not engaged with the problem of implementation. Do they advocate the removal of Permitted Development rights in respect of the distribution overhead and underground lines that serve properties in and around Friston? That is the effect of removing Class B(a) from the Order limits.

2.3 SASES' Comments on the Applicants' Hundred River Ecology Survey Report [REP11-063] (REP12-117)

ID	SASES' Comment	Applicants' Comments
1	1. Section 1.1 of REP11-063 states that the Applicants conducted this further survey in late May 2021 in order to verify or update their previous findings with regard to the Aldringham River Hundred area (Works No 19). This was on advice from Natural England. We have considered it to be a supplement to Extended Phase 1 Habitat Survey – Part 1 [APP-503] and Ecology Results February 2021 [REP6-035].	The May 2021 survey supplements previous surveys undertaken in April 2018 and February 2021, and also draws the same conclusions as those surveys regarding classification of the woodland at the Hundred River crossing location (i.e. that it is semi-natural broadleaf woodland and not wet woodland) and the availability of suitable habitat for hairy dragonfly (i.e. that there is no suitable habitat present).
2	2. SASES does not accept that the evidence provided is sufficient to confirm the Applicants' previous assessment that the riparian woodland between Hundred River and B1122 is not wet woodland. Important questions remain unanswered – see para. 10 below.	The Applicants strongly disagree with SASES on this matter. The Applicants have now undertaken three industry standard survey visits to the Hundred River crossing location over a four year period (April 2018, February 2021 and May 2021), all of which have drawn the same conclusion regarding classification of the woodland onsite (i.e. that it is semi-natural broadleaf woodland and not wet woodland). The evidence for this has been reiterated across numerous submissions to the Examinations and was set out at ISH7. The Applicants note that their classification of the woodland is supported by ESC's and SCC's ecologists (as stated at ISH7), and Natural England in its Deadline 12 submission (REP12-091) asserts that that the areas to be affected by the Projects are unlikely to be wet woodland.
3	3. The correct classification of this riparian woodland is highly important to biodiversity in the area. The loss of trees and vegetation from it would inevitably be damaging to this special habitat and cannot be mitigated or compensated by the planting such as the Applicants proposes in Works no 24 which is a	See comments as ID2 on woodland classification. This habitat has been surveyed three times by qualified ecologists and each time confirmed as semi-natural broadleaf woodland and not wet woodland. Work No. 24 is a suitable location to mitigate the loss of any trees at the Hundred River crossing location as they comprise semi-natural broadleaf woodland and not wet woodland. The onshore cables will not be laid within

ID	SASES' Comment	Applicants' Comments
	totally different and unsuitable arable land environment 800m distance to the west.	the full 34m (single project) or 68m (the Projects) wide cable route at the Hundred River crossing location, meaning that larger species can be replanted within this area where they avoid the onshore cables. Additionally, trees along the western bank of the Hundred River (extending 5m inland) which fall outside the area in which the onshore cables are to be installed but within the 34m / 68m working areas will not be removed unless for safety reasons, thereby minimising the area of disturbance as a result of the Projects. The Applicants note the Councils agree that the effective and robust implementation of the adaptive management measures set out in the ***OLEMS*** (document reference 8.7) will reduce the risk of planting failure and promote strong growth rates at Work Nos. 19, 24, 29 and 33.
4	4. Aldringham residents are able to observe this habitat and changes to it continuously through the seasons. Vegetative growth has been prolific since early April. The undergrowth is now so dense and high that by late May it would have been be difficult to walk across this land.	In its earlier submissions to the Examinations SASES asserted that the Applicants previous survey of the Hundred River crossing location was undertaken too early in the year (February) to provide a robust assessment of the habitats on-site; the Applicants note that SASES is now suggesting that May is too late in the year for such an assessment. As noted by the Applicants in previous submissions, Phase 1 habitat surveys can in fact be conducted all year round. The survey reported in ***Ecology Survey Results May 2021*** (REP11-063) occurred on Friday 28th May 2021 (i.e. a full two months into the optimum survey window of April to September). As noted at ID2, the Applicants have now undertaken three industry standard survey visits to the Hundred River crossing location over a four year period (April 2018, February 2021 and May 2021), all of which have drawn the same conclusion regarding the woodland onsite (i.e. that it is semi-natural broadleaf woodland). The Applicants also note that SASES' assertion contradicts Natural England in its Deadline 12 submission (REP12-091) where it suggests

ID	SASES' Comment	Applicants' Comments
		Spring 2021 has been unseasonably cold, which may have hampered vegetation growth.
5	5. SASES previously noted important inaccuracies in the Applicants' previous Surveys in this area in Appendix 4 and Appendix 5 of our deadline 7 Submission – Comments on Applicants DL6 Submissions [REP7-089].We do not understand why this sensitive area of the Aldringham River Hundred Special Landscape Area was not surveyed in 2018 as thoroughly as other designated areas of the cable route.	SASES' assertions within REP7-089 are thoroughly rebutted by the Applicants in ***section 2.4*** of their Deadline 8 response (REP8-045). The Applicants note that Aldringham River Hundred Special Landscape Area (SLA) is a non-statutory designation on which ecology and nature conservation have no bearing. In April 2018 the Applicants subjected the entire indicative onshore development area (see ***Figure 4.5*** of the ES (APP-085)) to a robust ecological survey effort; SASES assertions on this matter are incorrect.
6	6. Our chief concern with this latest report of an ecological walkover survey on 28 May 2021 is about the species that have not been reported and the rationale for the Applicants' firm conclusion based on those wet woodland tree and plant indicators that have been reported. We continue to believe that important evidence indicating that this is 'wet woodland' has been overlooked or ignored For example, we cannot understand how the Applicants' Surveyors ecologists have not recorded the extensive areas of the non-indigenous invasive species Himalayan Balsam (Impatiens glandulifera). This is widespread and dominant in many parts of the land within the Applicants' Order Limits across the west bank riparian woodland, not only alongside the river but across this section woodland between B1122 and the river.	SASES' assertion is incorrect. As noted at ID34 in ***section 2.4*** of the Applicants' Deadline 8 submission (REP8-045), Himalayan balsam was noted along the Hundred River upstream of the Order limits during the 2018 Phase 1 habitat survey (***Appendix 22.3*** of the Environmental Statement (ES)). Whilst not detailed within the survey reports (REP6-035 and REP11-063), Himalayan balsam was again noted during the February and May 2021 surveys, when it could be seen that it had spread and was generally more abundant along the Hundred River and within the woodland to the west than in 2018. This is to be expected of an invasive species. Any new ecological survey information submitted during the Examinations should be considered in conjunction with the information from previous surveys, including those presented within the ES; conclusions drawn from each new survey will also be influenced by information from previous surveys. Additionally, the extents of invasive species are not normally mapped during Phase 1 habitat surveys and not included on the mapping presented with any subsequent reporting. The mapping of invasive

ID	SASES' Comment	Applicants' Comments
		species is undertaken by the contractor when preparing any invasive species management plans required for a construction site. Himalayan balsam is an aggressive invasive species within the UK with a wide seed dispersal mechanism, and can spread rapidly. The species is associated with rivers and seasonally inundated land, but not woodland per se. Himalayan balsam is not considered to be an indicator species and its presence at the Hundred River crossing location cannot be taken as indicative of wet woodland habitat. The Applicants will employ precautionary working methods wherever invasive species are found to be present during pre-construction surveys. The Ecological Management Plan (secured under the Requirement 21 of the ***draft DCO*** (document reference 3.1)) will incorporate management measures for invasive species, such as marking out contaminated areas prior to construction commencing and good site practice measures for managing the spread of such species during works at watercourses.
7	7. The plant Himalayan balsam is an indicator of wetness in the land. It is well documented that in the U.K. balsam is generally to be found along riverbanks and in wet woodlands and damp meadows. It is not a native plant and therefore not listed in JNCC UK Biodiversity Action Plan (ABAP) Priority Habitat Description for Wet Woodland. Nevertheless it is inexplicable that qualified ecologists could have failed to identify and make note of it in their reports. The plant is classified as invasive because of its ability to exclude native species. It makes no sense that a survey has been completed without noting that it was found to be widespread there. SASES expressed concern in paras 7 and 10 respectively of Appendix 4 and Appendix 5 of SASES Deadline 7 submission [REP7-089] that the Applicants	See comments at ID6.

ID	SASES' Comment	Applicants' Comments
	had not noted the extensive areas of dead stalks of "wetland loving Himalayan Balsam, a wetland plant which is pervasive on the land" in its February 2021 ExA.AS-26.D6.V1 EA1N&EA2 Ecology Survey Results - Version 01 [REP6-035]. Its new growth has been increasingly prominent following germination in early March. By 28 May 2021, large swathes of Balsam should have been impossible to ignore and one month later it has reached the height of 2m and will shortly be in bloom.	
8	8. The Applicants' statement in Section 6.5.1, paragraph 242 of 8.7 EA1N Outline Landscape and Ecological Management Strategy v06 (OLEMS) [AS-127] that *Himalayan balsam* is "*present along the Hundred River upstream of, but outside, the onshore development area*" is also inexplicable and misleading. Suffolk County Council also will be fully aware that Himalayan Balsam has been present on this land over many years and indeed has in the past visited the area in order to inform land owners of their responsibility to eradicate it.	See comments at ID6.
9	9. The Applicants have relied at ISH 7 and subsequently upon support from ESC and SCC ecology officers for its conclusion that the land is 'semi-natural broadleaved woodland' and not 'wet woodland'. Ecology officers from both Councils did meet the Applicants' ecologist at the roadside during the 15 February 2021 Survey just two days prior to ISH7. They expressed support for the Applicants' conclusions at ISH7 and in ESC submission REP6-075. However, when SEAS requested sight of their Visit Logs, it was informed in writing by both Councils that neither officer had actually stepped on the land to inspect it. They had relied on views from the roadside and the nearest	The Applicants have only relied on their own professional survey work for their classification of the woodland at the Hundred River crossing location (i.e. that it is semi-natural broadleaf woodland and not wet woodland). This was the case in 2018 (three years prior to ISH7) and remains so following the February and May 2021. As stated in previous submissions to the Examinations, the Applicants cannot comment on how the Councils conduct their own independent site visits, but again note that the Councils' opinion is that the habitat is not wet woodland.

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	public footpaths approximately 175m away. Neither officer had documented his observations in a Visit Log. We submitted evidence on this in SASES DL6 Post ISH7 Hearing on Biodiversity and Habitats Regulations Assessment - Part 1 - Agenda item 2a (i) Hundred River - Priority deciduous woodland - wet woodland and its Appendix 1 and Appendix 2 [REP6-128].	
10	10. We believe that even at this late stage of the Hearings, important questions remain unanswered: a) Why has the Applicant ignored the presence of Himalayan Balsam in its February 2021 and May 2021 surveys on this land? b) Why have no scientific measurements been presented on soil type or its 'wetness' as one would expect to see in a proper botanic survey? c) Why were no observations regarding this sensitive and habitats rich section of riparian woodland presented in the original Extended Phase 1 Habitat Survey or with EA1N and EA2 planning applications. d) Had this length of the River Hundred been properly assessed in 2018, how could the Applicants' decision to select this river crossing place for the two Cable Corridors have been feasible or defensible? <u>References:</u> APP-503 6.3.22.3 Environmental Statement - Appendix 22.3 – Extended Phase 1 Habitat Survey (Part 1 of 2)	a) See comments at ID6. b) The Applicants' classification of the woodland at the Hundred River is based on the species present rather than moisture levels in the ground (in line with the JNCC Handbook for Phase 1 Habitat Survey (2016)) (see ID34 in ***section 2.4*** of the Applicants' Deadline 8 response (REP8-045)). c) Please see various submissions made by the Applicants (including those within the Applications) that include observations regarding habitats and species at the Hundred River crossing location (e.g. REP6-035, REP11-063). d) The Hundred River crossing location was properly surveyed by the Applicants in 2018 and the trees onsite correctly assessed as comprising semi-natural broadleaf woodland (as re-confirmed by the two 2021 survey visits). Potential impacts on this semi-natural broadleaf woodland have been considered in ***Chapter 22 Onshore Ecology*** (APP-070). e) The information submitted by SASES and Suffolk Energy Action Solutions (SEAS) has in no way been ignored. Such information has been noted by the Applicants, the Examining Authority and other stakeholders and has led the Applicants to undertaking further surveys. However, drawing on these professional surveys and the experience of appropriately qualified technical specialists, the Applicants have responded to information submitted by both SASES and SEAS at numerous deadlines

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	APP-277 - 6.2.22.4 Environmental Statement - Figure 22.4a-f – Extended Phase 1 Habitat Survey Results - Figure 22.4c. e) Why has local knowledge of the Hundred River area and its habitats that has been presented in good faith by SASES, SEAS and individuals during these Hearings been ignored or discounted? f) How could the Council ecology officers have been able to make a valid assessment from the roadside 86m away from the river? g) Why has it been necessary for Natural England to rely solely upon survey evidence presented by the Applicants and Local Authorities? h) Given the continued controversy, why has an 'independent' survey not been carried out at Work No 19, if only as a matter of ecological 'due diligence'? i) The Applicants' proposal to plant trees at Work No 24, a field of dry sandy soil cannot replace this riverside habitat, within which the Applicant has reserved a working area on the west side of 68m x 40m. Why has no suitable mitigation been proposed to protect this habitat or else to establish an equivalent area such as on marshland elsewhere near the Hundred River?	noting that it is considered to be incorrect, with the Applicants' survey and assessment conclusions remaining valid. f) The Applicants cannot comment on how the Councils conduct their own independent site visits. Regardless, the Councils' visit to the Hundred River crossing location has no bearing on the Applicants' classification of the woodland on-site (i.e. that it is semi-natural broadleaf woodland and not wet woodland). g) The Applicants would note that, across the spectrum of consenting regimes, where specialist surveys or assessments are required, these are undertaken by appropriately qualified independent professionals commissioned by developers. This occurs for numerous reasons, most importantly to ensure developers are cognisant of the environmental sensitivities when progressing their proposals. Surveyors must discharge their responsibilities in strict accordance with their industry's best practice guidance and provide impartial advice to developers, indeed this is essential for the retention of the professional qualifications and memberships that enable them to operate. h) There is no continued controversy as SASES suggests. The surveys undertaken by the Applicants' independent surveyors have shown the information submitted to the Examinations by SASES and others to be incorrect. As noted, ESC's and SCC's opinions support this, as does the opinion of Natural England. The Applicants consider this matter closed. The Applicants would add that the assertions made by SASES in REP11-063 repeat the contents of its previous submissions (notably REP7-089) despite the Applicants having already issued thorough rebuttals. i) See comments at ID3.

2.4 SASES' Deadline 12 Submission on Flood Risk (REP12-118)

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INTRODUCTION		
1	1. The Applicants submitted the following document at Deadline 11 on Monday 7 June 2021 which was published on 10 June 2021: a) Outline Code of Construction Practice – Version 7 2. The Applicants submitted the following documents on 11 June 2021 which were published on Monday 14 June 2021: b) Outline Operational Drainage Management Plan - Version 5 c) Outline Landscape And Ecological Management Strategy – Version 6 d) Infiltration Test Results (May 2021) 3. The Applicants organised a meeting of the flood and drainage experts of the Applicants, Suffolk County Council and SASES on Wednesday 16 June 2021. The purpose of such meeting for SASES was to see if any common ground could be reached. The Applicants' experts requested that the meeting be "off the record". 4. Clive Carpenter of GWP has reviewed the submissions of the Applicants submitted on or after deadline 11 and has prepared the report attached at Appendix 1.	Noted.
APPENDIX 1 – Report prepared by GWP Consultants		
2	***Flood Risk to Friston Village Comments on Deadline 11 Submissions***	Noted. Please see the remainder of this section for the Applicants' comments.

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	This letter constitutes a technical critique of documentation submitted by Scottish Power Renewables (SPR) matters post-dating the Issue Specific Hearings 16 (ISH16) held on Wednesday 26 May 2021, and in advance of Deadline 12. These documents include but are not limited to: e) Additional Infiltration Test Results f) Updated Outline Operational Drainage Management Plan (OODMP); g) Updated Outline Construction Code of Practice (OCoCP); and h) Updated Outline Landscape and Ecological Management Strategy (OLEMS).	
3	Qualifications of Author This letter has been prepared by Mr Clive Carpenter. Clive has a BSc (Hons) in Geology, an MSc in Hydrogeology and Groundwater Resources, is a Fellow of the Geological Society (FGS), Chartered Geologist (C.Geol), Chartered Member of the Chartered Institute of Water and Environmental Management (C.WEM, CIWEM) and Associate Member of The Academy of Experts (AMAE). Clive has more than 30 years of post-graduate experience in water resources management, water hazard mapping and risk reduction, flood risk assessment, climate change vulnerability assessment, and disaster risk reduction, both in the United Kingdom and overseas.	Noted. The Applicants are advised by Mr Paul Davies and Mr Pedro Vicente. Paul Davies holds an Honours degree in Civil Engineering from Trent University is an Associate Director with Arup, a chartered engineer and a chartered water and environmental manager. He is Arup's Global Stormwater skills leader. He was on the working parties that produced both the original Ciria SuDS manual and the updated version. He has also acted as an advisor on SuDS to both Department of Environment, Food and Rural Affairs (Defra) and Ministry of Housing, Communities and Local Government (MHCLG). Following the introduction of the Flood and Water Management Act 2010, he was commissioned by MHCLG to run several seminars around England and Wales to explain the impact of SuDS to Local Planning Authorities. He has also produced Developer Guidance documents for Lead Local Flood Authorities (LLFA) in England and Wales and undertaken drainage designs on major infrastructure projects. Pedro Vicente is an Associate Engineer with Royal HaskoningDHV who has over 13 years of experience of highways and infrastructure design across

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		numerous sectors. In this time Pedro has developed a particular expertise in drainage. He has designed drainage schemes for Section 104, 106 and 185 agreements under the Water Industry Act 1991, as well as Sections 38 and 278 agreements under the Highways Act 1980. Pedro is experienced in the use of modelling software and has extensive knowledge in the modelling of drainage networks, including SuDS in both rural and urban settings.
4	Instructions SASES instructed Mr Carpenter in June 2019, to provide expert independent advice and review of the SPR environmental statement and related documentation, with respect to the flood risk impact on Friston Village, and to ascertain whether flood risk has been i) assessed in accordance with policy on site location; ii) adequately investigated; and iii) adequately mitigated.	Noted.
5	Infiltration Tests The Applicant has submitted the results of a second series of infiltration tests undertaken in late May and early June 2021, following preliminary testing in early May, the latter of which did not follow CIRIA and BRE standards. The Applicant has undertaken 3 No. tests at each proposed basin location and 1 No. between the two proposed basin locations. The 6 No tests at the basin locations were repeated 3 times as per the CIRIA and BRE guidelines, the test between the basin locations was abandoned due to lack of infiltration. Of the 18 No. completed infiltration tests, 16 No. are reported as not achieving the required water level lowering from 75% to 25% of the pit depth, and consequently all analysis undertaken used	On the extrapolation of data, the Applicants note paragraph 9 of ***Infiltration Test Results (May 2021)*** (AS-129) which states: *"Conditions a) to c) below ensure that, where infiltration rates are poor, the tests can be terminated within an appropriate time frame and in a consistent way between different test locations:* *a) The water level has dropped to 0.25m above base level (0.75mbGL);* *b) The water level has dropped by less than 50mm during the first 60 minutes of the test; or* *c) The test duration has exceeded 120 minutes".* It was agreed with SCC as LLFA that the initial infiltration test results were sufficient to determine the parameters of the outline SuDS design presented in the ***OODMP*** (doucment reference ExA.AS-13.D13.V7). Post-consent, each SuDS basin location will be subject to further infiltration testing to confirm the

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	extrapolated data, to approximate the times taken for infiltration to occur, and does not meet the CIRIA and BRE guidelines. Not only is the process of extrapolation not described in the reporting, but it is likely to underestimate the increasing reduction of infiltration rate with time, and therefore overestimate the infiltration rates. The CIRIA/BRE guidelines are also clear the trial pits should investigate the infiltration characteristics to the same depths as future infiltration basins will be excavated. All pits were dug to 1.0-1.2m depth, whereas the basins are likely to be up to 4m depth in the east to perhaps <0.5m in the west. Drawing SK15 in the OODMP clearly shows the Hybrid SUDS basin with a basal depth of 14.50m AOD, compared to an upslope surrounding ground level of 18m AOD. The pits have therefore not investigated the properties to the right depths. We would also point out that large infiltration basins work by water mostly entering the underlying strata through their basal floor, whereas small trial pits infiltrate water through primarily their side walls. This means trial pits measure horizontal permeability whereas infiltration basins are constrained by vertical permeability. In many geological strata, the vertical permeability is an order of magnitude lower than horizontal permeability and therefore we consider the tests have not investigated or replicated the infiltration mechanisms and flow rates in the proposed larger basins. The Infiltration Report concludes the northern basin is unviable (as an infiltration only basin) and the southern basin is viable (as a hybrid basin) and proposes to use an infiltration rate (40 mm/hr) for design that is smaller than the average (49 mm/hr) of the lowest	infiltration rate. The results of this testing will be used in the detailed design of the SuDS basins. The 4m depth referred to by SASES is incorrect as can be seen on the cross sections of the indicative SuDS basins presented in ***Appendix 5*** of the ***OODMP*** (document reference ExA.AS-13.D13.V7). The Applicants have not discounted infiltration for the National Grid substation SuDS, but based on the results of the initial infiltration testing have determined that the most conservative approach for the outline basin design is to assume attenuation only. SCC has reviewed the approach proposed by the Applicants and deemed it acceptable on the grounds that the detailed design of the basins will be informed by the further infiltration testing post consent. It would not be possible to prevent infiltration without lining the basins, which the Applicants do not propose to do. Should infiltration be practicable the basin will benefit from it whether this has been considered in the calculations or not, indeed it is highly likely that a degree of infiltration will occur. The Applicants confirm that none of the ground investigation work to date has noted the presence of the water table within the SuDS basin locations.

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	test results for each trial pit in the southern location, but greater than the minimum calculated (35mm/hr). Notwithstanding our concerns over the reliability and appropriateness of the tests, taking the same logic as used for the southern basin area, the average of the minimum values for the northern tests is approximately 25mm/hr. We note this is more than double the minimum infiltration value (10mm/hr) considered as viable by SCC in previous discussions with the Applicant, however the option of infiltration has been abandoned. We conclude the Applicant has excluded the possibility of infiltration being viable in the north because the basin area would need to double in size, impacting landscaping and biodiversity mitigation given land availability constraints at the site, and NOT because of the infiltration rate. We therefore conclude that flood risk has been deprioritised for other matters – in breach of local policy – and the SUDS hierarchy is not being followed as infiltration is not being maximised. Lastly we note that no attempt has been made by the Applicant to consider the potential for groundwater to be shallow in the Friston area, despite being underlain by a major aquifer and having a low ground elevation 6 km from the coast, and for this to both restrict the performance and viability of infiltration structures as well as to introduce a groundwater flooding risk to Friston Village. We conclude: 1. the viability and impact of infiltration of project area storm run-off waters still remain entirely unproven; and	

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	2. even if they were, the Applicant has excluded an infiltration option contrary to policy.	
6	<u>Updated Outline Construction Code of Practice (OCoCP)</u> The Applicant has updated the OCoCP with outline details of water management within the construction footprints of the sub-stations. These are sized for a 1 in 15 Year Return Period, and state they will be discharged at Greenfield Run-Off Rate. Cable route drainage will be sized to 1 in 10 Year Return Periods. We have the following concerns about the proposed construction phase surface water management: i) The OCoCP assumes run-off will only be increased from the immediate construction footprint areas of the main infrastructure assets, whereas the Applicant has the potential to de-vegetate and soil strip the entire area within the DCO order limits. The DCO order limits are presumably justified as being the minimum necessary to deliver the project and are required for variety of reasons, including access, construction, landscape mitigation, noise mitigation eta, all of which will require disturbance of the ground, and therefore result in an increase in run-off and generation of turbidity and therefore need water management. The Applicant has failed to demonstrate they understand the requirement for management of run-off water from the entire disturbed site area, and consequently have not demonstrated whether this is actually achievable. The conceptual drawings provided (at Appendix 2 Figures 2 & 3) clearly illustrate the difference between	The Applicants have responded to each of SASES points i) to iv) in turn below: i) The request from both SCC as LLFA and the Examining Authority (ExA) during ISH16 was to prepare an indicative surface water management scheme for an illustrative stretch of the onshore cable route and at the National Grid infrastructure and onshore substation locations, recognising the current level of detail available and the broad ranging assumptions which would need to be made. The Applicants have presented an indicative scheme and demonstrated its deliverability, and note that Requirement 22(2)(a) stipulates that no stage of the onshore works may commence until for that stage a surface water and drainage management plan has been submitted to and approved by the relevant planning authority. The final surface water and drainage management plan will draw on the detailed design information available at such time and address surface water management within the remaining areas of the onshore development area not captured within the ***Outline CoCP*** (REP12-021). ii) The Applicants refer to their response to ISH16 action point 7 within ***Applicants' Responses to Hearing Action Points (ISH16 and ISH17)*** (REP11-082). There are currently no prescribed standards for the provision of construction drainage. As the construction programme for the National Grid substation is up to 48 months, and up to 24 months for the onshore cable route, the

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	the areas the Applicant considers require construction phase management and the published Works Plans; ii) The sizing of the water management infrastructure needs to consider an appropriate Return Period storm as well as the known discharge rate. The Applicant states the construction phase water management will be designed for a 1 in 15 Year event for the sub-station footprints and cable end compounds, and a 1 in 10 Year event for the cable routes. We contend these Return Periods are too small given the elevated flood risk to Friston Village and the potential for extended and sequential construction of the different elements of the proposed project. We would expect a construction period of 4+ years to require design against a 1 in 30 Year Return Period as a minimum in any watershed, but with a downstream receptor as vulnerable as Friston Village to flood risk we would expect to see a 1 in 100 Year Return Period to be used. Furthermore, the Applicant has not stated the discharge rate from the structures – Greenfield Run-off Rate also relates to a return period - and no specific rate has been stated. As such it is unclear whether the Applicant intends to discharge at QBAR or a larger flow rate and hence the risk of both flooding and under-sizing of the water management systems is unknown. It is relevant and comparable that Sizewell C is using 1:100 year return for all construction areas, including park & ride in Wickham Market;	Applicants consider use of the 1:100 year return period for construction run-off management to be excessive. At the onshore substation locations, the Applicants note that the design capacity of the basins outlined within the ***Outline CoCP*** (document reference 8.1) is for up to 1 in 15 year return period events, which provides storage for all events with equal to, or greater probability of occurrence than 6.66%. The storage capacity is increased beyond the design volume by and additional 300mm freeboard. Therefore, the recurring chance of an event which would overcome the threshold of the construction basins storage capacity is less than 6.66%. It should also be noted that overland flow currently discharges from this area unhindered and so the provision of temporary drainage system enhances its drainage capacity. The Applicants' temporary drainage system will capture the majority of a 1 in 30 year event and will reduce the discharge from the water it captures. Even in an event larger than the temporary basins' design capacity, the flow passed forward will be less than the existing unhindered system. The Applicants therefore believe that statements about the proposed system increasing flood risk downstream are unsupported by the evidence. Regarding SASES' comments on the greenfield runoff rate, the Applicants confirm that a Qbar of 16.46l/s was used within the calculations for the National Grid infrastructure and onshore substations surface water drainage scheme. iii) As per the arrangement of the onshore cable route as shown in ***Plate 11.1*** within the ***Outline CoCP*** (REP12-021), any surface water runoff flowing overland into the onshore development area

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	iii) There is no consideration of how the watershed and hillsides upslope of the site (to the east and north and some extent to the west) will be prevented from interacting with the disturbed areas to be managed within the site. Land will route storm run-off onto the DCO area unless there is infrastructure designed and sized to prevent this. At topographic lows – such as that east of the National Grid sub-station – it will be necessary to divert or route storm water across the DCO area. This is abundantly clear in the public domain surface water flood risk maps (see OODMP Appendix 1 Figure 4) which show a storm flow route through the National Grid substation footprint area. This has not been considered at all. If any upslope water is allowed to enter the on-site drainage schemes the on-site schemes will be under-sized to deal with these additional off-site areas, risking the onsite drainage structures being overwhelmed. Figure 3 for example clearly shows a hillslope north of an example of the cable route which will drain onto the DCO area thus inundating the on-site drainage infrastructure – which is also applicable to the cable routes within the Friston catchment; iv) The provided drawings appear to show sub-station construction phase ponds connected together. It is not clear if this is to allow transfer of treated or untreated water, and/or whether the storage is to be provided individually or at other locations. This has consequential risks in terms of whether the construction phase drainage is being designed to deal	from outside the of the Order limits will be intercepted by the drains on the extreme edges of the onshore cable route. This intercepted surface water runoff will be allowed to flow along the edge drains to such a point where it can be discharged into an existing drainage network or water body, or otherwise released. The edge drains will not be connected to the construction phase swales and basins, such that offsite surface water flows are kept separate from the runoff originating from within the onshore cable route. Regarding the onshore substation locations, during detailed design the Applicants will ensure that the existing surface water conveyance route is diverted around or between the construction sites associated with the National Grid substation and onshore substations. No culverting or piping will be used to divert this flow route, instead the Applicants will seek to work with and refine the natural topography of the area to accommodate the flow. The final surface water and drainage management plan will take full account of the topography surrounding the onshore development area. iv) The Applicants reiterate that the construction surface water drainage scheme presented within the ***Outline CoCP*** (REP12-021) is indicative at this stage and subject to change / further refinement during the detailed design stage. The concept behind the sequence of interconnected basins illustrated on ***Figure 2, Appendix 2*** in the ***Outline CoCP*** (REP12-021) is to emulate a 'treatment train' approach, whereby water is attenuated in multiple stages allowing the settlement of sediment at each basin and/or within the drainage channels. The final basin is connected to the

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	with peak flows or lower treated flows and blockage risks. We note in Figure 2 there is a construction area west of the National Grid sub-station a substantial part of which is at lower elevation than the pond it is meant to drain into. We also observe that the orientation of the southern basin is different from that shown in the OODMP – see comments below. In conclusion, the Applicant has not demonstrated the viability of delivering a construction phase surface water management scheme to prevent increased flood risk to Friston.	existing drainage network (Friston Watercourse), into which the attenuated and treated surface water will be discharged. The Applicants clarify that the location of the construction drainage basins is not fixed at this outline stage, and that the final surface water and drainage management plan will take full account of the topography within the National Grid and onshore substation locations, and the final detailed design and construction sequence.
7	<u>Updated Outline Operational Drainage Management Plan (OODMP)</u> The Applicant has prepared an updated OODMP, which introduces the results of the infiltration testing into the design process. The Applicant has concluded the northern infiltration basin is unviable, opting instead for an attenuation and discharge option, and designed the southern basin as a hybrid infiltration basin which will infiltrate the 1 in 30 Year storm and discharge any larger events to the local water course. We note that the orientation of the southern basin (as shown in drawing SK14 attached at Appendix 5) has changed but no explanation has been provided for this. We have the following concerns about the proposed operational phase surface water management: i) The discharge rates to the local water course are to be restricted to QBAR, however the investigation, characterisation and determination of QBAR and all other return period flows is inadequate and does not	The Applicants note that the SuDS basin designs are outline. The final basins may be micro-sited, reorientated, resized and/or reshaped in order to maximise infiltration and to reflect the final design of the substations and landscaping and construction sequence. The current iteration of the basins was in response to the ***Infiltration Test Results (May 2021)*** (AS-129). The Applicants respond to each of SASES's concern as follows: i) The Applicants have followed local and national standard practice when calculating the Qbar flow rates for the site. Furthermore, the Applicants applied a conservative rate at this outline design stage to the calculations undertaken which is lower than the allowable Qbar rates permitted within SCC policy. ii) The requirement on the Projects is not to remove flood risk from Friston, but rather not to exacerbate it. Flow from the National Grid infrastructure and onshore substation locations forms only a small contribution to the water that goes to Friston. Therefore, restricting flow from the substation locations will not remove flood risk from Friston as the majority of flow it receives comes from elsewhere.

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	follow Environment Agency guidance on small catchments ('Estimating floodpeaks and hydrographs for small catchments: Phase1', EA, 2012). The accurate definition of QBAR is not an academic exercise because this is the Return Period flow rate the LLFA usually requires the Applicant to limit discharge flows to, assuming this will address flood risk from TOTAL flows; ii) We contend QBAR does not remove flood risk from Friston Village because the village typically floods once every two years and therefore flows of this magnitude do not prevent flooding. Therefore, the LLFA should seek a maximum flow for discharge which demonstrably does not increase flood risk and does not assume QBAR flows will prevent flooding from occurring; iii) The Applicant's commitment to undertake future hydraulic modelling of the water course does not adequately address the poor baseline understanding of the catchment response to storm events, as there is no rainfall or stream flow monitoring with which to calibrate a hydraulic model; iv) The Infiltration rates have not followed CIRIA/BRE guidance, but used extrapolation of results which will overestimate infiltration, and have not been dug to similar depths or dimensions to best replicate the proposed infiltration basins;	However, restricting the flow from the substation locations to 'greenfield' rates will ensure that there is no additional flow to the system downstream. The discharge rate proposed by the Applicants is less than half the allowable rate based on SCC's requirement, therefore we believe that the proposals are not only compliant with SCC's requirement, but that they will provide a significant betterment to the existing system. iii) The Applicants have committed to undertaking hydraulic modelling. The scope of this work has not been finalised yet, therefore the Applicants cannot accept the statement that this work will 'not adequately address' the requirements. The scope will be discussed with SCC prior to any detailed design. iv) As noted throughout the ***OODMP*** (document reference ExA.AS-13.D13.V7), a further campaign of BRE 365 compliant infiltration testing will be undertaken post consent, the results of which will be used in the detailed design of the SuDS basins. It was agreed with SCC as LLFA that the initial infiltration test results were sufficient to determine the parameters of the outline sustainable drainage system (SuDS) design presented in the ***OODMP*** (document reference ExA.AS-13.D13.V7). v) See comments at iv) above on further infiltration testing. As noted, the SuDS basin designs are outline. The final basins will be micro-sited, reorientated, resized and/or reshaped in order to maximise infiltration and to reflect the final design of the substations and landscaping. vi) The Applicants confirm that none of the ground investigation work to date has noted the presence of the water table within the SuDS basin locations.

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	v) Infiltration rates have not been finalised for design. Wider testing – other than the areas of the current basins - may demonstrate further opportunities for infiltration, which have now been discounted – such as increasing basin area, moving location or changing geometry; vi) There remains no consideration of groundwater flood risk to Friston from the infiltration basin, nor whether groundwater levels will rise and reduce the performance and efficacy of the infiltration option. The viability of infiltration therefore remains unproven; vii) The Applicant refers to maximising infiltration where practicable, but is not prioritising flood risk reduction above landscape amenity or biodiversity issues. The northern infiltration basin option has been abandoned by the Applicant due to reportedly low infiltration rates, yet the rates are more than twice the agreed minimum with the LLFA. The observed infiltration rates would require an infiltration basin with twice the area, instead the Applicant ha chosen to discharge this water to the local watercourse. This is clear evidence of not following the SUDS hierarchy and not prioritising flood risk reduction above other site constraints – the flood risk to Friston is being increased to enable amenity and biodiversity objectives to be realised; viii) The approach to designing the southern infiltration basin – using the average minimum infiltration rate – has not been adopted for the northern basin, despite	vii) The Applicants note that landscaping proposals and ecological mitigation / enhancement measures have in no way been prioritised over the development of SuDS for the National Grid infrastructure and onshore substations. The Applicants have taken a holistic, integrated and strategic approach to design and through the recent iterations of the ***OODMP*** (document reference ExA.AS-13.D13.V7) and the ***OLEMS*** (document reference 8.7) have demonstrated that a practicable operational surface water and drainage management scheme can be successfully integrated with other important mitigation proposals within the Order limits. The SuDS hierarchy has been followed and infiltration will still be allowed to occur in the National Grid substation basin. The infiltration capacity of the basin has been excluded from the calculations due to the low rates, but the northern basin will not be sealed, therefore any infiltration that can occur, will occur. The basin will protect the downstream system by restricting outflows to greenfield rates even if zero infiltration occurs, but allowing infiltration provides additional benefit to the downstream system. viii) The Applicants have not discounted infiltration for the National Grid substation SuDS, but based on the results of the initial infiltration testing have determined that the most conservative approach for the outline basin design is to assume attenuation only. SCC has reviewed the approach proposed by the Applicants and deemed it acceptable on the grounds that the detailed design of the basins will be informed by the further infiltration testing post consent. It would not be possible to prevent infiltration without lining the basins, which the Applicants do not propose to do. Should infiltration be practicable the basin will benefit from it whether this has been considered in the calculations or not, indeed it is highly likely that a degree of infiltration will occur.

ID	SASES's Comment	Applicants' Comments
	the infiltration rate being above the minimum requested by the LLFA; ix) If the northern basin is designed as an attenuation pond only, it must not be lined and must be allowed to infiltrate into the underlying strata, even if this not explicitly allowed for in the design – this is more consistent with the SUDS hierarchy. A ponding depth equivalent to the 1 in 2 Year storm should be allowed for beneath any outflow outlet from the pond; x) There continues to be no consideration of the management of up-slope storm flows which might enter the development footprint and how these might be managed. We note in drawing SK14 (attached at Appendix 5) there is pipework entering both SUDS basins from the eastern boundary of the substations, one of which is located within an off-site run-off route (as evidenced by the valley geometry crossing the site at this location – and the surface water flood risk map in Appendix 1 Figure 4). If this is capturing off-site flows, the SUDS basins have not been designed to accommodate these flows and this will result in over-topping of the structures and increased flood risk to Friston; xi) The Applicant caveats the use of a Factor of Safety of 10 in the design process as being for the purposes of the OODMP. This does not give confidence the FoS of 10 is being committed to for the final design;	ix) The Applicants confirm that no lining is currently proposed for either operational SuDS basin. x) There is no requirement for the Applicants to consider off-site surface water drainage within the outline SuDS design. However, as per the commitment made in ***Chapter 20*** of the Environmental Statement (APP-068), subject to the hydraulic model prepared during the detailed design stage, the Applicants will consider additional SuDS features which may assist in wider surface water management matters. xi) The ***OODMP*** (docuemnt referenc ExA.AS-13.D13.V7) presents an outline SuDS design; the final design will require approval by the relevant planning authority in consultation with SCC. xii) The Applicants will consider these matters with SCC during detailed design of the Projects. The minimal cover referred to by SASES relates to a short section of the outfall where it passes beneath Church Road. xiii) The equipment provided to treat the foul and wastewater from the onshore substations and National Grid substation will be included in routine maintenance schedules to ensure they remain fully effective. This would include the routine emptying (if required) and maintenance of the cess tank to remove sewage from site and regular checks on the oil interceptors, auto shut off valves, sensors and alarms to ensure they are all functioning correctly. All maintenance activities shall also be recorded. xiv) Paragraph 130 of the ***OODMP*** (document reference ExA.AS-13.D13.V7) makes the commitment that no trees or shrubs will be planted inside or within 5m of the functional SuDS basin footprints; the ***OLEMS*** (document reference 8.7) submitted at Deadline 13 has

ID	SASES's Comment	Applicants' Comments
	xii) The Applicant provides no further evaluation of the risk to the discharge pipelines and outfalls from the attenuation pond and the hybrid scheme to the Friston watercourse, from collapse from vehicular traffic on the farm track nor of erosion and exposure of the pipeline from storm flows along the track – the track is a flood flow route. The Applicant has provided drawings of a protected outfall but there are 100s of metres of pipeline to be laid with minimal cover beneath the road. The long term sustainability and therefore viability of the discharge pipelines remains unproven; xiii) The discharge pipelines are extremely long and of thin diameter. There are no manholes shown to demonstrate the viability of the drainage scheme being able to be adequately maintained. The Friston watercourse receives considerable volumes of field run-off and the is routine deposition of silt and mud in the drainage network, especially at the location of the proposed outfall. There is every likelihood the outfall will pipes will become buried and blocked; xiv) The OODMP states clearly (see paragraph 130) that "Trees or shrubs will not be planted inside or within 5 m of the footprint of the SUDS basins". This is contradicted by the OLMP general arrangement and the OLMP illustrative plan attached in the latest version of the OLEMS which would appear to show vegetation immediately adjacent to the northern basin. There would appear to be no planting on the bunds of the southern basin, which shows inconsistency on this	now been updated to also include this commitment. The Applicants note that the purpose of the ***OLEMS*** is largely to provide a framework for landscape planting and ecological mitigation works, and not to set out the design criteria for the operational SuDS basins. Detailed design of the SuDS basins will be addressed through the final Operational Drainage Management Plan approved by the relevant planning authority, once further infiltration testing and detailed design has been completed to inform their micro-siting, reorientating, resizing and/or reshaping as required to maximise infiltration. This will be undertaken ensuring the proposed 5m separation distance is adhered to without compromising the effectiveness of the landscape planting. Additionally, the precise location of tree and shrub planting will be defined at the detailed design stage post consent. xv) The Projects' infrastructure in relation to the operational surface water drainage scheme will be subject to the maintenance provisions within the final ODMP. xvi) The operational surface water drainage strategy has been agreed with SCC. The calculations shown in ***Appendix 3*** of the ***OODMP*** (document reference ExA.AS-13.D13.V7) support the plan of the indicative SuDS basins shown in ***Appendix 5***. xvii) The discharge rate has been agreed with SCC as LLFA for the purposes of the ***OODMP*** (document reference ExA.AS-13.D13.V7), and will be verified as part of the detailed design process.

ID	SASES's Comment	Applicants' Comments
	issue and the Applicants approach to retention bund integrity; xv) There is a lack of clarity as to whether maintenance of the bunds form part of landscape maintenance or drainage maintenance if the projects are consented. Maintenance of the bunds should form part of maintenance of drainage given their importance. There also needs to be clarity as to who is responsible for what drainage infrastructure given both basins drain into the same watercourse; xvi) The model output files appear to cover all drainage options – ie none are discounted and the attenuation option for the southern basin is included - and do not clearly relate to the plan text or summary tables. The plan needs to clearly state how this data is being used in the design of the options – and needs to remove those no longer being taken forward to avoid ambiguity; xvii) There is no comparison of TOTAL flows released pre-development and those post-development. We contend that sufficient infiltration must be used to ensure PEAK and TOTAL flows do not exceed the pre-development situation, in order to demonstrate no increase in flood risk; In conclusion, the Applicant has not demonstrated the viability of sustained groundwater infiltration, nor outfall discharge to the local water course, over the life of the development.	

ID	SASES's Comment	Applicants' Comments
8	<u>Updated Outline Landscape and Ecological Management Strategy (OLEMS)</u> The OLEMS states the measures within it include the National Grid sub-station water management basin and an additional basin. The OLEMS clearly states wet woodland will no longer be located within the SUDS basins. This is in contradiction with the OODMP which states the opposite. It is critically important the SUDS basins are not vegetated with flora which can block the outfalls or reduce infiltration. The OLMP shows the planting of trees immediately adjacent to the National Grid sub-station basin. The OLEMS also needs to commit to not vegetating bunds around the basins. There is no mention of the 5m standoff referred to in paragraph 130 of the OODMP in this document and to ensure any water retention bunds are engineered to appropriately safety standards, consistent with the retention of 1,000's m3 of water immediately uphill of residential housing. The OLEMS reiterates that the final basin designs and the extent to which infiltration is practicable will be determined in the detailed design process. This is unacceptable and allows for infiltration to be dismissed entirely at a later date. Whilst the wording of the OLEMS has addressed concerns about vegetated drainage basins, the OLEMS continues to state the drainage schemes and therefore the flood risk to Friston will be determined by other landscaping, and biodiversity needs for the site. This is unacceptable. The OLEMS is not a suitable document for ensuring robust engineering of floodwater retention structures. Is unclear whether	Paragraph 130 of the ***OODMP*** (document reference ExA.AS-13.D13.V7) confirms that no trees or shrubs will be planted inside or within functional SuDS basin footprints; the ***OLEMS*** (document reference 8.7) submitted at Deadline 13 has now been updated to also include this commitment. The Applicants note that the purpose of the ***OLEMS*** is largely to provide a framework for landscape planting and ecological mitigation works, and not to set out the design criteria for the operational SuDS basins. The design of bunding (or batter slopes) for the SuDS basins will be addressed through the final Operational Drainage Management Plan once further infiltration testing has been completed to inform their micro-siting, reorientating, resizing and/or reshaping as required to maximise infiltration. The Applicants note that the root systems of certain vegetation species can provide stability to the ground, which can provide a strengthening of bunding. The precise location of tree and shrub planting will be defined at the detailed design stage post consent. However, the Applicants remain committed to not planting trees or shrubs within 5m of the functional SuDS basis footprints. The Applicants reiterate that landscaping proposals and ecological mitigation / enhancement measures have in no way been prioritised over the development of SuDS for the National Grid infrastructure and onshore substations. The Applicants have taken a holistic, integrated and strategic approach to design and through the recent iterations of the ***OODMP*** (document reference ExA.AS-13.D13.V7) and the ***OLEMS*** (document reference 8.7) have demonstrated that a feasible operational surface water and drainage management scheme can be successfully integrated with other important mitigation proposals within the Order limits. To confirm, it is the ***OODMP*** and not the ***OLEMS*** (as SASES asserts) that ensures the robust design of SuDS for the National Grid infrastructure and onshore substations.

ID	SASES's Comment	Applicants' Comments
	the adequate operation and maintenance of these structures is part of the maintenance required under the OODMP or the OLEMS. These are matters for dedicated water management plan acceptable to the LLFA.	

2.5 SASES' Comments on the Applicants' Responses to the Examining Authority's Written Questions 3 (ExQ3) (REP12-121)

ID	SASES' Comment	Applicants' Comments
Introduction		
1	1. This submission sets out SASES' comments on the following responses of the Applicants to ExQs3: a. Volume 4 Applicants' Responses to WQ3 3.2 Biodiversity Ecology and Natural Environment; b. Volume 6 Applicants' Responses to WQ3 3.8 Historic Environment; c. Volume 7 Applicants' Responses to WQ3 3.10 Landscape and Visual Impact; d. Volume 9 Applicants' Responses to WQ3 3.14 Other Projects and Proposals.	Noted.
2	2. Given the interconnected nature of the responses/comments of the Applicants, NGET and NGV in relation to other projects and proposals/cumulative impact in response to ExQ 3.14 or otherwise, SASES has made a separate submission at Deadline 12 on Cumulative Impact drawing on those parties' responses/comments. Accordingly SASES comments on the Applicants' responses to WQ3 3.14.2-3.14.6 are set out in that submission.	Noted. Please refer to ***section 2.5*** of this document for the Applicants' reply to SASES' comments on its responses to ExQ3 – 3.14 in relation to cumulative impacts.
3	3. The absence of a comment by SASES on a response by the Applicants does not indicate that SASES agrees with the response	Noted.

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
Volume 4 – Applicants' Responses to WQ3 3.2 Biodiversity Ecology and Natural Environment			

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
3.2.29	***Table 2*** and ***Table 3*** of the ***Draft Badger Method Statement*** (REP6-050) provide timings for the implementation of badger mitigation. Should the DCO be made in January 2022, it is anticipated that a preconstruction walkover survey (to assess the status and current use of previously identified setts and identify any new setts excavated) and bait marking surveys of the affected badger setts will be undertaken over approximately three weeks between February and late April as this period corresponds with peaks in badger territorial marking activity. The findings of these surveys would be used to inform the siting of an artificial sett if required. Three months is deemed to be a suitable length of time to agree a location with relevant consultees (including landowners) and obtain all necessary approvals. It is envisaged that an artificial sett could then be created during May 2022, which would take approximately two to three weeks to complete. One-way gates would then be installed on the badger setts identified for closure (in accordance	a) In their response, the Applicants initially refer to their Draft Badger Method Statement (REP6-050) regarding timings for implementation of badger mitigation. This document is marked as "Confidential" within the Examination Library and therefore Interested Parties are at a disadvantage in being unable to comment on any important or relevant issues. b) The Applicants propose that surveys will be carried out between February and late April 2022 to inform the siting of an artificial sett, which they propose to construct in May 2022. The Applicants have not however identified a site either within or without the Order Limits where such an artificial sett could be constructed. c) The existing main sett [TEXT REDACTED BY THE APPLICANTS] is situated within [TEXT REDACTED BY THE APPLICANTS] on the map below and will be [TEXT REDACTED BY THE APPLICANTS]. d) This is a very large sett with dozens of entry holes spread over [TEXT REDACTED BY THE APPLICANTS]and will require the installation of numerous one-way gates and ground-covering nets to achieve closure. There are also other smaller setts, such as [TEXT REDACTED BY THE APPLICANTS]. The badgers favour [TEXT REDACTED BY THE APPLICANTS]. Photographs of these setts were provided with SASES Deadline 6	a) The Applicants note the sensitivity of information contained within the ***Badger Method Statement*** (REP6-050) and the Examining Authority's decision not to include this document in the public record. However, the Applicants clearly summarise the timings of badger mitigation within their response to ExQ 3.2.29. b) The Applicants confirm that an indicative location for an artificial sett has been included within the ***Badger Method Statement*** (REP6-050). However, given the sensitivity of this information this cannot form part of a public record. The final location of any artificial setts to be constructed will be informed by relevant guidance (such as that published by Nature Scot), subject to further consultation with the statutory nature conservation body (Nature England) and agreement with landowners. c) The Applicants are surprised that SASES has again risked contravening Section 3 of the Protection of Badgers Act 1992 by submitting confidential locational information on badgers to the Examinations. The Applicants also note that SASES has published the location of badger setts on their website, again potentially contravening Section 3 of the Protection of Badgers Act 1992. The

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	with a badger licence) during July 2022. In line with guidance, these must be in place for a minimum of 21 consecutive days meaning the identified setts could be closed in August 2022. An earliest construction start date of mid-2023 was assessed in ***Chapter 22 Onshore Ecology*** (APP-070). Noting that the latest date for excluding badgers from setts in any given year is 31st November (i.e. installation of the one-way gates), the Applicants consider that the three additional months within the programme of badger mitigation ensure there is sufficient flexibility to ensure that setts are closed in 2022 ahead of the commencement of construction during 2023.	post-hearing submission [REP6-129], but were redacted in publication. These can be provided again if required. e) SASES refers to Betts Ecology information on the closure of badgers setts given in the following link:- https://www.bettsecology.co.uk/insight/badger-mitigation-when-settsare-found-on-your-land The ExA should note that the artificial sett should be in place for six months before the original sett is closed. Further research suggests that badgers can be reluctant to move and the process of closing a sett can be protracted. A buffer zone of 30M around the artificial sett also needs to be provided. f) SASES notes, as do the Applicants, that the closure of setts is only permitted between the months of July and November each year and it is noted that the Projects are planned to commence construction mid-2023. Onshore preparation works are planned to take place prior to commencement of the authorised development. In addition to ecological mitigation, these works include site clearance, demolition work, the creation of site accesses and footpaths, all of which would affect the existing badger sett. g) The ExA should note the Applicants' reasons for dismissing the Broom Covert (Zone 8) site for EA1N and EA2 in that they felt unable to purchase replacement ecological mitigation land outside of the Order Limits as they would	Applicants would reiterate their commitment to undertake a full walkover survey of the entire onshore development area to check for the presence of badgers (as set out within ***section 6.6.3*** of the ***OLEMS*** (document reference 8.7)). As per ***section 6.6.3.2***, a licence application will be submitted to, and mitigation agreed with, Natural England prior to construction of the relevant works in line with normal practice. This will include the provision of alternative artificial setts within the Order limits where necessary. d) See comments at c). e) Whilst the hyperlink provided by SASES does not appear to work, the Applicants note and are aware of the requirement for an artificial sett to be in place for six months prior to closure of an existing sett. This has been factored into the timings set out within the ***Badger Method Statement*** (REP6- 050). The Applicants will adopt measures to encourage the movement of badgers from any sett to be closed to the newly created artificial sett. Monitoring will be undertaken to ensure that the artificial sett is in use by badgers and that no badgers are using the sett marked for closure.

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
		not have Compulsory Purchase powers. See Site Selection and Assessment of Alternatives [APP-052] from which the following statement is made on page 54:- "*The need* to *secure replacement reptile mitigation land for the Sizewell C New Nuclear Power Station development on a voluntary basis, without the ability to secure land by compulsory acquisition (as land would need to be secured prior to SPR's compulsory acquisition rights being made available to allow its use by EDF).*" h) In SASES' opinion the pressure will be to destroy these badger setts without any proper mitigation in the form of artificial setts as there will be insufficient time to locate a site, negotiate with landowners and obtain the necessary consents before intrusive works affecting the existing setts become necessary on the substation site. i) It is noted that there is an area to the east of the substation site marked as potential mitigation land (marked 87 on the Land Plans and referred to as a potential ecological mitigation area), but this is woodland within which in would be impossible to create the extensive setts and burrows needed for artificial setts of the required size to compensate for those existing on the substation site.	Necessary badger mitigation must be successfully implemented prior to the commencement of construction of the relevant works. This does not preclude works being undertaken 30m beyond the location of a sett entrance. It is only where works cannot avoid a badger sett entrance with a buffer of 30m that disturbance occurs and exclusion and closure of the setts may be required. The Applicants will ensure that all appropriate mitigation is completed prior to working within such buffer zones, where required. f) The Applicants note that all necessary badger mitigation will be implemented prior to the commencement of any works likely to disturb a badger sett. g) SASES' comments on the Applicants reason for not selecting Broom Covert for the site of the onshore substations are totally irrelevant to the badger setts. h) The Applicants note that all necessary badger mitigation will need to have been successfully implemented prior to the commencement of any works likely to disturb a badger sett. This does not preclude works being undertaken 30m beyond the location of a sett entrance. It is only where works cannot avoid a badger sett entrance with a buffer of 30m that disturbance occurs and

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
		j) SASES therefore considers that the ExA should require the Applicants to identify a site within the Order Limits for the creation of an artificial site to be secured within the DCO. This is the case with Sizewell C, which has identified its ecological mitigation sites for specific species within the DCO Application. By not identifying a mitigation site for badgers within the DCO, it leaves significant numbers of badgers at risk of destruction by the Applicants.	exclusion and closure of the setts may be required. The Applicants will ensure that all appropriate mitigation is completed prior to working within such buffer zones, where required. Mitigation measures for badger are secured through the ***OLEMS*** and Requirement 21. Should a badger mitigation licence be required, this will be sought and any mitigation implemented in accordance with the final badger mitigation licence granted by Natural England's Wildlife Licencing Team. i) There is sufficient space at the onshore substations location beyond 30m of the working areas which could be utilised to establish an artificial sett if required. j) The Applicants have ensured that adequate space and opportunity exists within the Order limits to accommodate badger mitigation measures, including the creation of artificial setts. Pre-construction surveys and detailed design of the Projects will inform the need for such mitigation, given the potential for movement of both badger populations and refinement of the design which may result in avoidance of badger setts (thus avoiding the need for further mitigation). It is therefore inappropriate for artificial sett locations to be prescribed at this

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
			early stage of the Projects or specified within the DCO.
Volume 6 – Applicants responses to WQ3 3.8 Historic Environment			
3.8.2	The exchange of views regarding the visibility of the church from High House Farm was started by remarks from Fiona Cramb in her Deadline 7 submissions (REP7-082). In the Applicants' response to Fiona Cramb (REP8- 050) it was noted that "construction of the proposed substations and sealing end compounds would not obstruct a view of the church but the proposed screening planting would obstruct the view." (ID 6) This statement was included simply as a matter of fact, responding to Fiona Cramb, and not as evidence in support of our assessment of High House Farm. As noted in the same response from the Applicants at ID 8, "*the Applicants do not consider that the view of the church from the garden makes a substantive contribution to the significance of High House Farm and therefore the severance of the view*	SASES has consistently challenged the Applicants' identification of the setting of High House Farm and their consequent assessment of the detrimental impact which the development of the substations and, especially, the establishment of the National Grid infrastructure, including sealing end compounds and the construction of an additional pylon to the north of the substation complex. These elements will be in close proximity to the farm, and will have a detrimental effect upon its setting, as well as the impact of the wider substations and change of landscape character. At issue here is the contribution which the long views southwards towards the church makes to the significance of the farm, and SASES has consistently recognised these views as providing an important connection between the medieval core of the settlement (embodied in the church) and the outlying farmsteads which lie to the north, of which High House Farm is one. The existence of the ancient trackway and boundary which links the two elements, which has been recognised by the Applicants as a heritage asset in its own right, serves to emphasise this historical connection and allows the layout of the medieval landscape to be read and appreciated. The severance of these long views, whether by the construction of the	The Applicants note the longstanding difference in professional judgement between themselves and SASES regarding the contribution of views from the grounds of High House Farm to the significance of the heritage asset and subsequent assessment of potential effects upon this asset's setting. It is acknowledged that this is a matter upon which the Applicants and SASES will not agree on. The Applicants consider they have made their position clear within the response to ExQ 3.8.2: that the assessment of effects upon heritage setting is not based on the analysis of visual impact from specific viewpoints, but instead on an understanding of how the experience of an asset in its setting contributes to significance, and that it is considered that the view of the church looking southwards from the garden of High House Farm does not make a substantive contribution to the significance of High House Farm.

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	would not materially affect the significance of this Listed Building". The contribution that setting makes to the significance of High House Farm (as described in Appendix 24.7 of Environmental Statement (ES) (APP519/520)) relates to our appreciation of the farmhouse within its cluster of former agricultural buildings in a rural agricultural landscape, part of the historic settlement pattern along the edge of Friston Moor The Applicants recognise that the substations and sealing end compounds would be prominent features in the view from the southern edge of the garden grounds to High House Farm. In terms of visual impact this would be a high magnitude of change and a significant effect, as recorded in the assessment of Landscape Visual Impact Assessment (LVIA) Viewpoint 5, only a short distance to the west (LVIA Addendum Table 3.2 document reference ExA.AS4.D11.V1). However, findings relating to visual impact must not be drawn into the assessment of impact on the significance of heritage assets.	substations and National Grid infrastructure and/or the additional planting, therefore has a detrimental impact upon the setting and significance of not only High House Farm, but also Little Moor Farm. The additional impacts of the proposals on the trackway itself have been addressed in previous submissions from SASES and others, including the latest statement from Historic England, which we wholeheartedly support.	

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	Heritage impact assessment is not based on the analysis of visual impact from specific viewpoints but, instead, requires an understanding of how experience of an asset in its setting contributes to significance. This contribution is frequently explained by reference to views but it is fundamentally not a viewpoint- based assessment (unlike visual impact assessment). As noted above, it is considered that the view of the church looking southwards from the garden of High House Farm does not make a substantive contribution to the significance of High House Farm and therefore the severance of the view (for whatever reason) would not materially affect the significance of this Listed Building.		
3.8.3	The ***Substations Design Principles Statement*** (document reference ExA.AS-6.D11.V3) includes the following design principle to ensure that the detailed design process considers	Three observations on this response. 1. The cable sealing ends are National Grid infrastructure and part of the National Grid NSIP. Yet no explanation from National Grid is provided which is surprising given the ExA's reference to the "highly detailed extensive electrical safety requirements"	The Applicants response is as follows: 1. The Applicants are promoters of the Projects and it is wholly appropriate for the Applicants to respond on such matters. 2. SASES misrepresent the Applicants' response. The Applicants' response clearly

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	the cable sealing end compound design and orientation: "*The design and orientation of the cable sealing end compounds will be aligned to field boundaries where possible, noting the need to maintain safety distances and alignment with the overhead lines*". The Applicants consider that there is a reasonable prospect that the cable sealing end compounds can be realigned during the detailed design stage although this is a matter for detailed design. That is why this is a design principle.	2. The Applicants by their response have indicated that it is not in fact "likely" that there will be any such realignment. 3. As per SASES previous submissions the largest sealing and compound, which has particularly damaging impacts, contains a circuit breaker which breaks the line between Bramford and Sizewell. No justification for this infrastructure has been provided as set out in SASES' previous submissions (REP11-170). Good design should result in the elimination of one or more of these cable sealing end compounds. 4. SASES also refers to its previous submission (REP11-177) in which it pointed out that the photomontages and OLMP have not properly represented inter alia the cabling from the sealing end compounds.	states *'The Applicants consider that there is a reasonable prospect that the cable sealing end compounds can be realigned during the detailed design stage although this is a matter for detailed design.'* 3. The Applicants have previously addressed this matter. The circuit breaker is a necessary component of the Projects' infrastructure due to the configuration of the wider network. The Applicants have also previously stated that the design of the National Grid substation has already eliminated the need for a fourth cable sealing end compound as one overhead line circuit connects directly into the National Grid substation. 4. The Applicants refer to their comments at ***Section 2.7*** of the ***Applicants' Comments on SASES' Deadline 11 Submissions*** (REP12-034), particularly ID2 to ID5.
3.8.4	These questions are best answered by reference to Section 2 of the Clarification Note (REP1-021) which sets out the Applicants' position on these matters in full. The relationship between the trackway and the church is dealt with in paragraphs 11 and 12. These explain	SASES refers to the response to this question which it made at Deadline 11 (REP11-172). We welcome the comments made by Historic England on this subject in the latest round of submissions and that we agree with and support everything which they have said on this matter.	The Applicants commented on SASES' response to ExQ 3.8.4 at Deadline 12 and refer to their comments within ***section 2.2*** of its ***Applicants' Comments on SASES' Deadline 11 Submissions*** (REP12-034).

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	that the experience of walking along the trackway towards the church does make a positive contribution to the significance of the church and that the loss of this experience would cause harm to the significance of the church. The relationship between church and trackway and the potential for harm were both identified in the original assessment of the church (ES Appendix 24.7 APP-519/520) and therefore no adjustment to the findings of that assessment is required. The relationship between the trackway and Little Moor Farm is dealt with in paragraphs 13, 14 and 15 of the Clarification Note. Here it is concluded that the trackway does not contribute to the significance of Little Moor Farm and therefore the obstruction of the route would not harm the significance of the Listed Building. To summarise, in answer to Question 'a', the trackway does contribute to the significance of the church but not Little Moor Farm. In answer to Question 'b', the obstruction of the trackway would result in harm to the significance of the		

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	church and this matter is fully addressed in the existing assessment of the church.		
Volume 7 Applicants Responses To WQ3 3.10 Landscape And Visual Impact			
3.10.1	The Applicants intend to approach this in a slightly different way by stimulating the local supply chain and creating opportunities to ensure potential suppliers are aware of the timings and the Projects' needs. Due to supply chain rules this would be a far more effective means of ensuring appropriate supplies are locally available for suppliers to access. The ***Outline Landscape and Ecological Management Strategy*** (OLEMS) (REP10-005) will be updated to state that the tender documentation will reflect the Applicants preference for regional tree stock.	The ExA's question was about local sourcing. The Applicants' response refers to local supply but the update to the OLEMS is to refer to the preference for "regional tree stock". [emphasis added]. Region can be defined to mean a very large area of the East of England. A distinction has to be made between: (i) the source of supply; (ii) what is supplied; and (iii) where it has been grown. A distinction which the Applicants have confused. This needs to be clarified in the OLEMS. The preference should be for native/indigenous trees (which the OLEMS does indicate) which are both grown locally and supplied by a local supplier. It is unclear what "stimulating" means and why "supply chain rules" means this is more effective at ensuring local supplies. No doubt in reality the trees will be sourced from the cheapest large scale supplier	Sourcing The Applicants note that the number of trees required to deliver the OLMP amount to tens of thousands – demonstrating the comprehensive nature of the landscape mitigation proposed by the Applicants Flexibility in the supply of this stock is essential in order to procure this number of specimens, notwithstanding the need to ensure the stock is suitable. The Applicants have committed to confirming their preference for regional tree stock within the ***OLEMS*** (document reference 8.7). Stock is likely to be sourced from a number of regional suppliers. It should be noted that, despite submissions from Interested Parties to the contrary, the Suffolk climate does not differ dramatically from the majority of East Anglia (e.g. Cambridgeshire or Norfolk) and whips propagated and hardened-off in these counties will suit the climatic conditions in Suffolk. Stimulating the supply is an effective means of ensuring that the regional supply chain is aware

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
		regardless of location. This is what "supply chain rules" being procurement rules and processes usually drive. Timing of Planting SASES would observe that planting will not be required until well after 2024, and could be as late as 2028 if not later, given most planting will not take place until after the completion of the construction works. The Project Description (Chapter 6 of the ES APP-054) states that onshore preparation works will take up to 15 months, the substation works up to 30 months and the National Grid substation works up to 48 months. The Applicants have stated in their response to ExQ 3.2.29 that "***an earliest construction start date of mid-2023*** *was assessed in* ***Chapter 22 Onshore Ecology*** *(APP-070)*". Given that the onshore preparation works would be up to 15 months (see paragraph 549 of Chapter 6 of the Environmental Statement) that would seem to be a reasonable estimate assuming the decisions on the DCOs is not delayed. The Project Description further states that the construction of each onshore substation would be up to 30 months and of the National Grid substation up to 48 months – see paragraphs 553 and 554 of Chapter 6 of the Environmental Statement.	of the Applicants needs and can plan and resource accordingly. Timing The Applicants have not stated that *"most planting will not take place until after the completion of the construction works"*. SASES is misrepresenting planting under the sequential construction scenario. Landscaping will be established for the first project under a sequential construction scenario which will be approved under the Landscape Management Plan (LMP) submitted for the first project. The Applicants will not await the completion of the second project before establishing the first project's landscaping. Other projects must take account of the landscaping proposed or in place for the Projects. The timing and extent of planting will be agreed with the relevant planning authority within the LMP, secured under Requirement 14 of the ***draft DCO*** (document reference 3.1).

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
		If one was to assume that both the EA1N substation and EA2 substation were built within the 48 months required to build the National Grid substation, then the earliest construction will be complete will be mid 2027. If the Scottish Power substations are built sequentially then construction will not be complete until mid 2028, assuming the construction of one project immediately follows the other. If there is a gap between the construction of the Scottish Power substations then construction will not be complete until an even later date. In addition this does not take any account of the construction works required for other projects including the extension of the National Grid substation for the NGV interconnector projects which may further delay the completion of construction works at the Friston site.	
3.10.2	The Applicants agree that the OLEMS (REP10-005) includes planting proposals adjacent to the southern boundary of the grounds of High House Farm. The new planting area proposed by the Applicant close to the south western boundary is proposed to provide additional screening of views to the south where the sealing end compounds will be sited.	In the question the ExAs identify that '*the garden of High House Farm provided clear views across a largely open landscape to the Church of St Mary.*' Vp 5 shows a similar open view across to the church as that from High House Farm. In response to ExA question 3.10.2, SPR's justification for enclosing this view by planting appears to be that '*The Applicants recognise that this will have to balance various interests*.' It is unclear how '*consultation with local residents ... to discuss their expectations for*	As noted at ExQ 3.8.2, there is a longstanding difference in professional judgement between the Applicants and SASES regarding the contribution of views from the grounds of High House Farm to the significance of the heritage asset and subsequent assessment of potential effects upon this asset's setting. It is acknowledged that this is a matter upon which the Applicants and SASES will not reach agreement.

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	The Applicant notes the recent removal of various ash trees due to disease, which has resulted in more open views than at the time of the original assessment. The Applicant noted a mature vegetated boundary to the south-west of the property near Landscape Visual Impact Assessment (LVIA) Viewpoint 5 during its site survey work in the area in February 2019 (see photo below), which it considered would provide some screening and a basis from which to justify further planting around this boundary. It is clear that trees were located to the south of the farm both historically (OLEMS Figure 1 (REP10-005)) and recently until their felling due to decline as a result of Ash dieback. Such trees would have prevented or filtered views to the south. The proposed woodland area alongside this would seem to be an appropriate bolstering of such a design intent however, the Substations Design Principles Statement (document reference ExA.AS6.D11.V3) sets out that consultation with local residents will be undertaken to discuss their	*landscape work in the vicinity of their properties*' can address this issue satisfactorily. The severity of the impact on the views from High House Farm is a consequence of the severance that the development will cause between the historic farmhouse to the north and the village and its church to the south. As previously identified, this is a visual severance (as evidenced from Vp 5), a physical severance (the substations/sealing end compounds will lie between the farmhouse and the village) and a severance of connection (the historic route between the village to the farmhouses will be permanently lost).	The Applicants consider they have made their position clear within the response to ExQ 3.8.2; that the assessment of effects upon heritage setting is not based on the analysis of visual impact from specific viewpoints, but instead on an understanding of how experience of an asset in its setting contributes to significance, and that it is considered that the view of the church looking southwards from the garden of High House Farm does not make a substantive contribution to the significance of High House Farm.

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	expectations for landscape work in the vicinity of their properties and this will be taken into account subject to agreement with other stakeholders. The OLEMS has been designed in outline to ensure that an appropriate framework is delivered. The Applicants recognise that this will have to balance various interests. It is important that there is a proper process to enable this to be done in a transparent way. The design process secured through the draft Development Consent Order (DCO) will facilitate this.		
3.10.3	The influence of the existing double rows of pylons and overhead high voltage lines can be seen clearly in Viewpoint 5 Figure 29.17a (document reference ExA.AS-4.D11.V1) in which they cross the landscape between Friston and High House Farm at close proximity. With reference to the photomontages from the same view in Figure 29.17b, the Applicant considers that to some extent the proposed substations may draw further visual attention to the electrical infrastructure, increasing the legibility of the function	The only explicit reference to the harm that would be caused by the additional pylon is in response to the ExA question 3.10.31 . As previously set out SASES consider that the proposals would have the effect of making the pylons more dominant than they currently appear. Although SPR are reluctant to accept this point they do acknowledge that '*the proposed substations may draw further visual attention to the electrical infrastructure, increasing the legibility of the function of the pylons/transmission lines in the landscape.*' They have also accepted ' *the presence of the additional pylon in the view towards Friston (next to the larger sealing end compound with circuit breaker)*' will '*contribute to increasing the visual*	The Applicants note that a) the substations potential to draw further visual attention to the electrical infrastructure, increasing the legibility of the function of the pylons / transmission lines in the landscape; and b) the presence of the additional pylon in the view towards Friston contributing to increasing the visual influence of overhead pylons in the local landscape are both accounted for within the assessment of Viewpoint 5 presented within ***Landscape and Visual Impact Assessment – GIS Addendum*** (REP11-028).

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	of the pylons/transmission lines in the landscape, however it does not consider that the substation proposals would render the existing pylons more dominant than they currently appear. The loss of open agricultural landscape as a result of ground level infrastructure is recognised, however this does not increase the visual influence of the existing double row of pylons, which already have a prominent influence traversing the landscape between Friston and Fristonmoor. It is the presence of the additional pylon in the view towards Friston (next to the larger sealing end compound with circuit breaker) which is more likely to contribute to increasing the visual influence of overhead pylons in the local landscape.	*influence of overhead pylons in the local landscape.*' SASES consider that this is in effect accepting that the proposals would have the effect of making the pylon line (which would include the additional pylon) more dominant than they currently appear.	
3.10.4	The Applicant would clarify that the OLEMS has been designed to provide mitigation where it is considered to be most effective for the mitigation of the landscape and visual effects arising from the Projects substations and the	The Applicants state that "*the quote from the OLEMS (REP 10–005) is poorly worded*". Yet this wording remains unchanged in paragraph 39 (last bullet) of the latest draft of OLEMS (AS-127/128). The Applicants have included additional wording reflecting this response but this does not provide any clarification of	The Applicants note that they refer to the landscaping proposal in the context of stating that the land is not being sterilised for future expansion of the National Grid substation by virtue of its strategic layout as opposed to it specifically being designed to accommodate any expansion. For further clarity, the text referred to

ExQ Ref	Applicants' Response	SASES' Comments	Applicants' Comments
	associated National Grid infrastructure only. The quote form the OLEMS (REP10-005) is poorly worded and was intended to highlight that the strategic landscaping would not sterilise the ability for the National Grid substation from being expanded in the future. It is noted that as the Projects' Examinations have progressed the master planning has evolved, with the National Grid Sustainable Urban Drainage System (SuDS) basin now proposed in closer proximity to the western boundary of the National Grid substation. The final design of the onshore substations and National Grid infrastructure, in addition to the post consent stakeholder consultation, will also influence the final landscape design.	the difference between the two statements of the Applicants as referred to in EXQ 3.10.4. SASES position as set out in its submissions including REP1-354, REP3-126 and in its Deadline 12 Cumulative Impact Submission is that the National Grid infrastructure is and has always been intended to be a new connection hub for National Grid for a number of projects and therefore the Scottish Power project has been planned to accommodate this hub from the outset both at the substation site and along the cable route.	by SASES has been updated in the ***OLEMS*** submitted at Deadline 13 (document reference 8.7). The Applicants and National Grid have confirmed in submissions to the Examinations on a number of occasions that the National Grid substation proposed by the Applicants is not a connection hub but is required for the Projects only. Continued reference to this by SASES is misleading.
3.14.2 – 3.14.6	-	See SASES Deadline 12 submission In respect of cumulative impact.	Noted.

2.6 SASES' Comments on Responses to Examining Authority's Written Questions 3 (ExQ3) in respect of Cumulative Impacts (REP12-120)

ID	SASES' Comment	Applicants' Comments
1	1. In response to ExQs 3, the Applicants and NGV made further submissions on the assessment of the cumulative impacts of the proposals with other projects.	Noted.
2	2. SASES has emphasised throughout that the overwhelming evidence is that the DCOs would authorise the construction of a connection hub at Friston which would facilitate the connection of further projects to the grid in this location. Indeed, in answering ExQ 3.14.1, NGV appear to accepted that proposition: "It is inevitable that any consented NGET substation asset at this location would attract interest until capacity of the NGET substation is reached. Reviews such as the Offshore Transmission Network Review (OTNR) recognise this position and the need for more coordinated solutions to come forward."	SASES' statement is incorrect. In its **Deadline 3 Submission – Responses to any further information requested by the ExA for this deadline** (REP3-111), in response to the ExA's question of 'whether development consent for NGET elements (and consequentially the land take) are required only to facilitate the connection of EA1N and EA2 or whether consent is also sought for works to facilitate future connections', NGET states: *"The short answer to this question is that the Applications only seek consent for those works necessary to provide a connection for EA1N and EA2 to the National Electricity Transmission System (NETS). The land take that NGET will require from the Promoter will only facilitate the connection of EA1N and EA2"*. NGET goes on to state (REP3-111) that: *"The NGET Infrastructure is required to connect EA1N and EA2 only. Any additional connections to the substation in the future would require an extension that would need to be consented separately"*.
3	3. In respect of the National Grid interconnector projects, there can be no doubt that it is intention of NGV to connect at this location. This point has already been addressed in SASES's submissions (see e.g. REP3-126 and REP9-075). The	As stated by National Grid Ventures (NGV) in REP11-119: *"The most efficient **technical solution** is to locate the converter station as close to the substation extension bays as possible"* (Applicants' emphasis).

ID	SASES' Comment	Applicants' Comments
	extremely limited appraisal by the Applicants (REP8-074) is legally inadequate for the reasons set out in REP9-075.	However, the Applicants highlight that the technical solution is not the end of the site selection process. The site selection process also encompasses environmental considerations. Hence, NGV have a 5km search area for their proposed converter stations from the NGET substations and nine broad areas have been indicated within NGVs initial site appraisal documents[1]. As the Applicants stated in the ***Extension of National Grid Substation Appraisal*** (REP8-074): *"If considering NGV converter station locations in the immediate vicinity of Friston, broad locations are shown [in the Nautilus 'Initial Site Appraisal' map] adjacent to the Projects' substations (location 5) and to the east of Grove Wood (location 5a). A 24m building would be prominent in both locations and it is not straightforward to determine which would be the worst case based on the full suite of viewpoints (5 would be worse for northern viewpoints but 5a for the southern viewpoints). This simple example is instructive of the judgements the Applicants would need to make around the worst-case assumptions"*. To undertake the kind of exercise envisaged by SASES, the Applicants would need to determine a 'reasonable' worst case for the NGV converter stations and identify a location (something that NGV confirms that it has not yet done) taking the same approach as for their own site selection process, considering a suite of potential receptors in order to determine what location and arrangement would be a) practical and b) nominally consentable (i.e. not a location that was so obviously inappropriate as to invalidate the exercise). It is not appropriate for the Applicants to undertake site selection for other projects. Therefore, REP8-074 presented the only practical solution by providing an appraisal based upon the only element of the NGV projects in respect of
4	4. The complete failure to assess converter station impacts is shown to be inadequate in NGV's response to ExQ 3.14.1 (REP11-119) which confirms that "The most efficient technical solution is to locate the converter station as close to the substation extension bays as possible… Co-location of a converter station and substation is considered to have an advantage because it reduces / avoids transmission losses". It follows that the likely significant effects of interconnector development at Friston include both the NG substation extension, and the converter station infrastructure.	

[1] https://www.nationalgrid.com/document/125601/download

ID	SASES' Comment	Applicants' Comments
		which any sensible assumptions can be made, noting that no other project has confirmed their intention to connect at Friston.
5	5. Further, the absence of any cumulative assessment of future windfarm connections at Friston remains a significant deficiency. NGV's submissions at REP11-119 confirm the benefits of co-location and the need for further expansion of the NG substation should such schemes connect Friston. The fact that the North Falls proposal is considering, at risk, a connection location in Essex begs two questions: a. Whether such a location could be justified by NG given the apparent need for new NG infrastructure (i.e., the absence of any identified existing connection point). If it could not be, then it is difficult to see on what basis Friston is not being considered; b. Alternatively, if such a grid connection location is possible, why it has been wholly disregarded in identifying the Leiston area for a grid connection for EA1N and EA2.	In ***Written Summary of Oral Case (ISH2)*** (REP3-085) the Connection and Infrastructure Options Note process for the Projects is discussed at length. In ***section 3.1.4.1***, a total of 12 initial options for connection are listed, highlighting the range of options considered, Table 1 highlights the reasons why options were ruled out. Any grid connection offer / agreement with National Grid will take into account the project's generation capacity, the forecast network constraints and opportunities on the national electricity grid at the time the particular project is seeking connection. National Grid ESO identifies the overall most economic, efficient and coordinated connection option considering planning and environmental considerations. This will vary from project to project depending on the connection date sought and the corresponding constraints of the network (existing or planned) at the relevant time. The North Falls project is of a different size and will have a different connection date to the Projects. These two factors (amongst others) influence their connection location.
6	6. In the first eventuality, the need for consideration of the cumulative effects of future windfarm connections at Friston is clear. In the second eventuality, the options assessments put before the examinations to date appear to be incomplete.	It is not clear what future windfarm connections at Friston are being referred to. The North Falls and Five Estuaries projects have both confirmed they are not connecting at Friston (REP7-066 and AS-100 respectively).
7	7. In response to the Applicants' answers to ExQ3.14, SASES notes as follows.	Please refer to the Applicants comments at ID8 to ID14.
8	8. First, at 3.14.2 and 3.14.3 the Applicants suggest that landscaping mitigation is not being designed to accommodate substation expansion. This appears inconsistent with the	See comments at ID3.10.4 in ***section 2.5***. The Applicants note that any interaction of the NGV projects with the Projects must ensure no detriment to the operation of the Projects, and any interaction with the Projects

ID	SASES' Comment	Applicants' Comments
	answer to ExQ3.10.4 that "strategic landscaping would not sterilise the ability for the National Grid substation from being expanded in the future". There is no sensible distinction between designing to accommodate, and not sterilising, future development. Either the landscaping, which is intended to be retained for the life of the project, will allow for the expansion of the substation or it will not. The inconsistency serves to confirm that the Applicants do anticipate the expansion of the substation, but are not properly acknowledging that likely expansion in the assessment of the proposals which are before the examinations. NGV itself confirms (in answer to ExQ3.14.5: "the Applicants and NGV recognise there are benefits in ensuring that the design of the East Anglia TWO project and East Anglia ONE North project does not unnecessarily limit or restrict the opportunity for the Nautilus project and EuroLink project to connect to National Transmission System (NTS) at the National Grid substation".	landscaping or surface water drainage will have to be fully assessed, controlled and mitigated as part of NGV's consent applications.
9	9. Second, the Applicants acknowledge that the mitigation measures which are being contemplated in these applications may need to be altered or reversed by future expansion. This would necessarily include revised drainage solutions. None of these impacts have been assessed at all by the Applicants. It is clearly possible to assess the impact on the surface water drainage requirements of increasing the size of the NG substation.	
10	10. Third, the answer offered by the Applicants to ExQ3.14.5 is wholly inadequate and potentially misleading. NGV has made clear its intention to use the Friston location. The need for an assessment of cumulative impacts does not depend on	With reference to NGV's Deadline 11 submission (REP11-119), and as confirmed during a meeting with NGV on 25th May 2021, NGV does not have the information that is required by the Applicants to undertake a Cumulative Impact Assessment (CIA), specifically information pertaining to

ID	SASES' Comment	Applicants' Comments
	certainty that a "cumulative" impact will occur. The requirement is to assess the "likely significant… cumulative… effects" (see paragraph 5 of Schedule 4 to the 2017 Regulations). It is well-established that "likely" does not equate to "certain". This misunderstanding on the part of the Applicants has infected their analysis of cumulative schemes throughout. It would be a clear legal error to rely on the Applicants' approach since it has wrongly excluded cumulative schemes on the false premise that "certainty" is required to justify assessment.	the landfall and convertor station locations, cable routes or indeed a formally confirmed grid location. This reflects NGV's early stage of project feasibility, which are not scheduled to enter Environmental Impact Assessment (EIA) scoping until 2022.
11	11. It is far from "impossible" to assess the likely impacts because the scale and nature of those impacts are known: indeed NGV is able to cite examples of similar schemes in its own answers to the same questions. Moreover, NGV has published extensive information in respect of the Nautilus scheme, confirming for instance that "*NGV understands that typically the maximum land take required to facilitate extensions to NGET substations is approximately 1.3 ha (3 acres) for each connection offered at a location*" and "*NGET has indicated that provision for the land required to extend its substation at Friston has been provided for as part of Scottish Power Renewables proposals for the East Anglia ONE North (EA1N) and East Anglia TWO (EA2)*". In truth there is no doubt as to what is proposed by NGV, as confirmed by its own answer to ExQ3.14.5.	
12	12. Fourth, the suggestion by both the Applicants and NGV that assessment can be deferred to a future application for development consent is plainly inconsistent with the law on the assessment of cumulative effects: see the principles described in *Pearce v SSBEIS* [2021] EWHC 326 (Admin) at [109]-[116].	The Applicants note SASES' position on future projects, but strongly disagree with SASES' claim that they have failed to comply with the EIA Regulations by not undertaking a CIA. Following Planning Inspectorate Advice Note 17, the Applicants have provided a consideration of the

ID	SASES' Comment	Applicants' Comments
	Later assessment in the context of a subsequent consent does not avoid the need for assessment of the cumulative effects in the context of the first consent. In *R (Larkfleet Limited) v South Kesteven District Council* [2016] Env. L.R. 76 the Court of Appeal described the assessment of cumulative impacts and noted that: *"Where two or more proposed linked sets of works are in contemplation, which are properly to be regarded as distinct "projects", the objective of environmental protection is sufficiently secured under the scheme of the Directive by consideration of their cumulative effects, so far as that is reasonably possible, in the EIA scrutiny applicable when permission for the first project (here, the link road) is sought,* ***combined with*** *the requirement for subsequent EIA scrutiny under the Directive for the second and each subsequent project."*	potential cumulative impacts of the Projects with all foreseeable developments for which there is sufficient information available. The Applicants have now made several submissions to the Examinations on this matter. The Applicants maintain their position from the response to the original question in ***Applicants' Responses to ExQ3 Volume 9 3.14 Other Projects and Proposals*** (REP11-093).
13	13. Advice Note 17 is consistent with these legal principles. It provides no justification for the exclusionary approach adopted by the Applicants and the ExA should advise the Secretary of State that the Applicants have simply failed to assess the likely significant effects in cumulation with the other projects, including both the interconnector projects and likely windfarm development.	Following the guidance in Advice Note 17, the projects below were not considered in the CIA because at the time the Projects' CIAs were written (and indeed at Deadline 13) there was no detail upon which to base any meaningful assessment (with no information on, for example, the project design, location of infrastructure and timescales): • Nautilus Interconnector; • EuroLink Interconnector; • Greater Gabbard Offshore Windfarm Extension (now known as North Falls); and
14	14. It follows that there is an absence of any proper assessment of likely significant cumulative effects. The shortfalls have been set out in SASES's submissions to date, and are confirmed by the answers to ExQ3.14.	

ID	SASES' Comment	Applicants' Comments
		• Galloper Offshore Windfarm Extension (now known as Five Estuaries). Since commencement of the Examinations, both Five Estuaries and North Falls have provided updated confirmation that the projects are not intending a future grid connection at Friston (see AS-100 and REP7-066). Despite the Applicants' requests for further information on the location of the Nautilus and Eurolink infrastructure (necessary to undertake a CIA), NGV has confirmed that no such information is available (REP11-119). NGV's projects remain at the feasibility stage and there is not currently the necessary project detail available to enable a thorough and meaningful assessment of potential cumulative impacts. This includes no information on landfall or converter station locations, cable routes, or indeed confirmation of a grid connection location. The Applicants have, to the extent possible with the information currently available, provided a consideration of the potential cumulative impacts of the Projects with all foreseeable developments. This is reflected in submissions made during the Examinations regarding changes to the Sizewell C DCO and Sizewell B planning applications (REP6-043 and REP8-075). To the extent that information is available, the Applicants have also considered potential cumulative impacts associated with the hypothetical extension of the proposed National Grid substation north of Friston within the National Grid Substation Extension Appraisal submitted at Deadline 8 (REP8-074) and the associated appendices (REP8–069 to REP8-073).

2.7 SASES' Comments on National Grid Ventures' Responses to Examining Authority's Written Questions 3 (ExQ3) in respect of Cumulative Impacts (REP12-125)

ID	SASES's Comment	Applicants' Comments
Introduction		
1	1. National Grid Ventures responded to EXQ 3.14.1 and 3.14.5. SASES has the following comments on its responses, but in addition NGV's responses, together with those of the Applicants and NGET, raise broader issues concerning cumulative impact which are the subject of a separate Deadline 12 submission by SASES.	Noted.
2	2. National Grid Ventures introduce their responses by an "informative note" which is a reminder that separate converter stations will be required for each of the Nautilus and Eurolink projects. As set out in NGVs document, Nautilus Interconnector Briefing Pack dated July 2019, "*a typical operational footprint for a convertor station covers an area of 5ha (12 acres) with a maximum height of 24m*"	Noted
3	3. Given the nature of the convertor station sites in the vicinity of Friston being considered by NGV, as set out in its briefing back, substantial landscaping will almost certainly be required. Further the sites would appear to be either entirely or substantially on agricultural land, all or most of which will be of the best and most versatile type. See SASES' written representation on land use REP1-359.	The locations for a potential converter station have not been specified by NGV.

ID	SASES's Comment	Applicants' Comments
4	4. The absence of a comment by SASES or a response by NGV does not indicate that SASES agrees with the response.	Noted

ExQ Ref	NGV Response	SASES' Comments	Applicants' Comments
3.14.1 (c) & (d)	c) There is a demand for coastal connections given the UK Government target to deliver 40GW of power from offshore wind by 2030 as set out in the Energy White paper (December 2020) and the Ten Point Plan for a Green Industrial Revolution (November 2020). It is therefore inevitable that any consented NGET substation asset at this location would attract interest until capacity of the NGET substation is reached. Reviews such as the Offshore Transmission Network Review (ONTR) recognise this position and the need for more co-ordinated solutions to come forward. Instead of dozens of individual wind farms connecting one by one to the shore, MPIs would allow clusters of wind farms to connect all in one go; reducing the impact on the marine and onshore environment by reducing and consolidating the number of cable runs and onshore substations when compared to the existing individual	NGV assert that the use of MPIs for their Nautilus and Eurolink Interconnectors would limit Offshore Wind Farm impact on local communities by reducing the number of independent onshore Grid connections required. However, SASES has found evidence (e.g. Ref. 4) that such MPIs might be used to provide connections to Dutch and Belgian offshore wind farms rather than only those developed on land belonging to the Crown Estate. In those circumstances UK communities would suffer the adverse impacts of the onshore interconnector works with no reduction in the continued need to provide separate onshore grid connections for any additional UK wind farms. The use of MPIs is not, therefore, a guaranteed benefit to UK communities or a mitigation of the various adverse impacts of the onshore works associated with Interconnectors.	Noted. The nature of these projects, and the direction of electricity flow, is not yet known. This is not surprising given that they are only at a feasibility stage. Any such projects will have to be considered against the National Policy Statement (NPS) and other policies that apply at the date of determination.

ExQ Ref	NGV Response	SASES' Comments	Applicants' Comments
	developer led approach. MPIs would therefore provide a more co-ordinated and cheaper solution for consumers and reducing impacts on local communities. In the case of the proposed Friston substation, substation extension bays would be required to accommodate new connections, including an extension bay each for the Nautilus project and EuroLink project. Extension bays would increase the overall footprint of the NGET substation. d) Both the Nautilus project and EuroLink project are intended to be Multi-Purpose Interconnectors (MPIs), an evolution from the original intention of point to point interconnectors. This decision was made in response to a need for a more coordinated approach, which was called for by stakeholders. A MPI would comprise an offshore converter station with HVDC cables running to an onshore converter station (in each country). HVAC cables would then run between the onshore converter station to the point of connection. The MPI would connect into the National Transmission System via a substation.		

ExQ Ref	NGV Response	SASES' Comments	Applicants' Comments
	These components are shown in the MPI diagram at Appendix 2 of NGV's Deadline 9 response. As detailed in NGV's Deadline 3 response, NGV have undertaken feasibility work based on the assumption that the proposed NGET substation connection for both the proposed Nautilus and EuroLink Multi-Purpose Interconnector projects will be at Friston.		

2.8 SASES' Comments on National Grid Electricity Transmissions (NGETs) Responses to Issue Specific Hearing 16 Action Points (REP12-119)

Action Point	NGETs Response	SASES' Comments	Applicants' Comments
1	In REP6-110 NGET said: "NGET's current preference is to pursue AIS technology for the NGET substation as the AIS technology is easier to operate, maintain and repair and as such has lower operational costs which is important in meeting its s.9 duties. The GIS technology produces SF6 which has the equivalent impact of ten times the carbon equivalent of AIS technology. NGET's current policy is to reduce its greenhouse gas emissions by 80% in advance of the target date 2030 set by the UK government. Where appropriate, NGET has pledged not to carry out procurement of any 275kV or 400kV gas insulated switchgear containing SF6 (excluding circuit-breakers) from 2024. However, NGET recognises that GIS technologies are evolving and there may be potential options for greener GIS in the	The statement made at REP6-110 and reiterated here that: "*The GIS technology produces SF6 which has the equivalent impact of ten times the carbon equivalent of AIS technology*." is completely meaningless in the absence of any parameters by which the factor of ten times is being measured. It is widely documented (e.g. Ref.1) that SF6 is an extremely dangerous greenhouse gas such that the release of one tonne of SF6 into the atmosphere has a Global Warming Potential (GWP) over 100 years equivalent to the release of 23,500 tonnes of CO2. SF6 is essentially indestructible and cannot be 'got rid of' once manufactured. It has a lifetime in the atmosphere estimated at 3,200 years. Electrical equipment using SF6 inevitably suffers leaks of the gas and it has been estimated (Ref. 2) that in a recent year the annual leaks of SF6 from electrical equipment and other releases into the atmosphere were equivalent to the annual CO2 emissions of 100 million cars.	The Applicants position is clearly set out in NGET's ***Response to ExA's Further Written Questions (ExQ2)*** (REP6-110). Use of SF6 continues to be permitted and its use is tightly controlled. NGET strong preference is the use of AIS technology, therefore should this technology be adopted, little or no GIS equipment would be utilised within the National Grid substation. There is no space restriction at the substation site for the delivery of the Projects, as demonstrated by the figures within the ***OLEMS*** (document reference 8.7) and NGET has previously confirmed that the National Grid substation which the Applicants are seeking consent for, is designed to serve only the Projects. Regulatory constraints prevent NGET from designing and delivering the National Grid substation to include speculative design or equipment to accommodate future projects (i.e. anticipatory investment is not permitted under NGET's licence). The Applicants have nothing further to add on this matter.

Action Point	NGETs Response	SASES' Comments	Applicants' Comments
	future. As such NGET is keeping the GIS option open to allow for its use in the future if it is a greener option to AIS". Accordingly NGET would comment as follows on ExA's question: a) NGET agree that ExA's summary of what NGET said in REP6-110 is a fair summary. The government's climate change targets are the primary driver in addition to NGET's commitments to Ofgem to reduce its SF6 inventory. b) In this instance NGET's strong preference is to construct an AIS substation, essentially a GIS substation would only be constructed if the DCO, if approved, restricts the type of substation to be constructed. NGET consider it is relatively unlikely that non-SF6 technology will be available in the time frames for the construction of the substation for this Project. NGET's approach in relation to the construction of new GIS substations is that they shall only be considered where lifetime related conditions (such as pollution, **permanent space**	The wind farm industry used to employ SF6 in its wind turbines but this use has now stopped (e.g. the Applicant's EA1 wind turbines Ref. 3 page 2). Both Suffolk County Council and East Suffolk District Council have declared 'Climate Change Emergencies' so use of GIS switchgear would be contrary to these policy decisions. Other environmental bodies are similarly opposed to the continued use of SF6. The provision of land for the expansion of the National Grid substation has been well rehearsed in the context of: a. the issue of operational land and permitted development rights b. the choice of GIS or AIS technology GIS technology would free up land for expansion of the National Grid substation. Given NGET's comments there would appear to be no apparent reason why the DCO should not restrict National Grid to AIS technology. However there is a clue in the second bullet of their response with the reference to "*permanent space restriction*" – this text has been highlighted. Given the constrained nature of the substations site and the size of the SuDS basins required, there will be a permanent space restriction at Friston. This means that NGET are engaging in a project where they know	

Action Point	NGETs Response	SASES' Comments	Applicants' Comments
	restriction or public visual amenity) preclude the use of open terminal equipment. c) NGET must comply with its s9 duties at all times, to develop and maintain an efficient, co-ordinated and economical system of electricity transmission. In deciding which technology to use NGET therefore consider the solution that would offer the lowest lifetime cost solution, taking a balanced view of safety, environmental implications, project delivery and whole life costs. Considering the environmental implications and whole life costs would involve factoring in the SF6 implications and will mean in practice that NGET will only construct GIS technology (in the absence of non SF6 technology) where AIS technology is not an option for the reasons identified in bullet 2.	now they will have to go down the GIS route to accommodate future expansion contrary to the Government's climate change targets and NGET's commitment to Ofgem in respect of the use of SF6. On all these grounds SASES therefore strongly opposes approval of a GIS option for the proposed NGET substation and would wish any NGET substation that may be consented to be restricted to AIS only.	

2.9 SASES' Comments on the Applicants' Deadline 11 Submissions in Respect of Issue Specific Hearing (ISH) 16, ISH 17, Substations Design, Landscape and Heritage Gas-Insulated Switchgear (GIS) Addenda (REP12-122)

ID	SASES' Comment	Applicants' Comments
COMMENTS ON APPLICANTS RESPONSES TO ISH 16 ACTION POINTS		
1	1. **Action Points 6** to **12** relate to flood risk and these issues are addressed in SASES' Deadline 12 submission on Flood Risk.	Noted.
COMMENTS ON RESPONSES TO ISH 17 ACTION POINTS **Agenda Item 4**		
2	2. Engagement with ESC and SASES on noise provisions.	Noted.
3	3. The technical experts of the applicants (Colin Cobbing and Alisdair Baxter), ESC (Joe Bear) and SASES (Rupert Thornely-Taylor) met on 16th of June 2021. In addition three officers of ESC attended, Philip Ridley, Naomi Goold and Mark Kemp but only Mark Kemp participated in the meeting.	The Applicants arranged a meeting with SASES and ESC with the aim of clarifying any outstanding matters through each party explaining their position, and reaching agreement where possible.
4	4. The meeting focused on paragraph 5.11.4 of EN-1 – Applicant's assessment. Rupert Thornely-Taylor prepared a note of the meeting which is attached at Appendix 1 and this was sent to all parties on 18th of June 2021. SASES has not received any response to this note to date. The advice which SASES has received from Mr Thornely-Taylor in relation to the specific matters discussed in the meeting are set out in the final section of this note.	The Applicants are grateful to Rupert Thornley-Taylor for providing his notes of the meeting of technical specialists on behalf of the Applicants, SASES and ESC.

ID	SASES' Comment	Applicants' Comments
5	5. The following matters were not discussed at the meeting: a) the need for noise monitoring to take place when the substations are operating at full capacity and for this to be stated in Requirement 27; b) the need for noise monitoring to take place on a regular annual basis (and for this to be stated in Requirement 27) otherwise if there is a problem with noise it could fall to the District Council or local residents to fund noise monitoring which is unreasonable; c) matters relating to the design principles statement were not discussed in particular in relation to paragraph 71. The design principle should be to mitigate and minimise other adverse impacts consistent with EN-1 section 5.11. This should not be qualified by the words "*insofar as these mitigation measures do not add unreasonable costs or delays to the project*" which are inconsistent with policy. The limit set out in Requirement 27 is to prevent significant adverse impacts on health and quality of life from noise consistent with paragraph 5.11.9, first bullet. Paragraph 5.11.9 second bullet requires other impacts on health and quality of life from noise to be mitigated and minimised. This requirement of policy is not qualified by reference to unreasonable costs or delays or in any other way. In this context it must be remembered that Friston is an exceptionally quiet rural area.	SASES' further comments are noted. The Applicants refer to the ***Applicants' Comments on SASES' Deadline 11 Submissions*** submitted at Deadline 12 (REP12-034) and have responded to each point in turn: a) The Applicants will ensure that, in line with Requirement 27 of the ***draft DCO*** (document reference 3.1), a written scheme for monitoring compliance with the specified maximum noise rating levels is submitted to and approved by the relevant planning authority prior to commencement of operation of Work No. 30. The written scheme will specify that monitoring of operational noise is undertaken during representative times of operation and under appropriate weather/meteorological conditions. b) The Applicants note that monitoring of operational noise will be undertaken in accordance with the written scheme for monitoring compliance, as secured through Requirement 27 of the ***draft DCO*** (document reference 3.1).Investigation and/or additional monitoring will be undertaken in the following circumstances: ○ Where a noise complaint has been received which provides grounds to believe that the noise emanated from the Projects onshore substation or National Grid substation and could be in breach of the maximum noise rating levels specified within Requirement 27 of the ***draft DCO*** (document reference 3.1); or ○ The relevant planning authority makes a reasonable request for the Applicants to investigate and/or undertake additional monitoring of operational noise. c) The Applicants note that its position (and that of ESC, as voiced in the meeting on 16th June 2021) is that the wording within Requirements 12 and 27 of the ***draft DCO*** (document reference 3.1) and within the ***Substations Design Principles Statement*** (AS-133) provide an appropriate mechanism to control operational noise in line with current policy. At Deadline 8, ESC confirmed that *"ESC's position is now that*

ID	SASES' Comment	Applicants' Comments
		that operational limits secured in Requirement 27 are consistent with national policy requirements at this stage" (REP8-145 and REP8-146).
COMMENTS ON SUMMARY OF ORAL CASE ISH 16 **Agenda Item 2 Design Matters**		
6	6. Para 12 - During ISH16 [EV-142] Brian McGrellis for the Applicant accepted that SASES proposal for reducing the height of power capacitor banks by splitting was entirely feasible. This agreement should be reflected in a reduction in the Rochdale Envelope height of these components by amending Requirement 12 of the draft DCOs and in the Substations Design Principles Statement.	As stated in the ***Applicants' Comments on Substation Action Save East Suffolk's Deadline 11 Submissions*** (REP12-034): *"Reference to the capacitor bank is misleading. It is clear from the complete discussion that all buildings and equipment (including the harmonic filters) must be considered and designed in an integrated way to ensure a safe and efficient substation design which reduces the environmental impacts where practicable and cost effective. The example given by Mr McGrellis at Issue Specific Hearing (ISH) 16 illustrates that reducing the height of the harmonic filters may not have a benefit in terms of visual impact given the presence of the GIS building and other infrastructure, but there may be other consequential impacts such as restricting the ability to reduce the substation footprint or resulting in increased noise levels. This demonstrates the importance of an integrated design of the substations in delivering a safe and efficient design."* It is therefore inappropriate to reduce the Rochdale envelope height of these components as suggested by SASES.
7	7. Para 14 - The Applicants assert that a single project must connect into four OHL circuits but provide no justification for this. The Galloper project (originally approved as 504MW) was specified to connect to two specific circuits only, but after downsizing to 353MW this was reduced a single fixed circuit with no attendant cable sealing ends. The Applicants/NGET should	The Applicants have previously clearly set out the need for each project to connect to four circuits, within its ***Written Summary of Oral Case ISH16*** (AS-135): *With regard to the number of cable sealing end compounds required to the National Grid substation, three of the four overhead line circuits will connect*

ID	SASES' Comment	Applicants' Comments
	undertake simplification and reduction in the design of the NGET substation and further the number of cable sealing ends should be reduced for each project. To secure this Requirement 12 of the draft DCOs should be amended accordingly.	*via a dedicated cable sealing end compound and one will connect directly into the National Grid substation (facilitated by the proximity of the National Grid substation to the pylon). One cable sealing end compound requires a circuit breaker due the existing network configuration elsewhere on that particular circuit.* *As one or both Projects must connect into four circuits, the cable sealing end compounds must be consented in both Projects' DCOs as all of the cable sealing end compounds are required by each Project.* The Applicants have no further comment to make on this matter.
8	8. Para 19 - The Applicants will be well aware that Design Review is an integral element of all significant Engineering Design activities and SASES does not accept that wholesale rejection of its proposals is appropriate. The issue particularly arises because of the Applicants choice to select a site having extreme sensitivities to cause landscape & visual, heritage, acoustic, flooding and other adverse impacts and the concomitant need to ensure that the best possible outcome is achieved. Leaving external review until the design has been 'set in concrete' cannot be acceptable. The Applicants are encouraged to make a constructive proposal to take this topic forward which might include a Design Panel operating within the Design Council framework, but with a remit to address all design aspects, not just architectural and where the Design Panel members have relevant expertise including power engineering expertise. As an example of the need for such a panel, communities affected will want to be assured that any emphasis on economy has not been at the expense of landscape & visual impact or noise emissions. The Energy Act 1989 requires that economy, efficiency, coordination,	The Applicants refute SASES claim that the substation site has extreme sensitivities. The Applicants point to the extent of agreement with the Councils on matters such as operational drainage, operational noise, landscape master planning etc. which clearly demonstrate the capacity of the site to accommodate the infrastructure required and delivery of necessary mitigation. The Applicants accept that certain significant residual effects remain, but the extent of such impacts is geographically very limited. During the Examinations, the Applicants have significantly expanded upon the Onshore Substation Design Principles Statement (APP-585) and developed the ***Substations Design Principles Statement*** (AS-134). The Substations Design Principles Statement contains significant measures to further refine the substations impact where practicable and cost effective to do so; commits to further post consent public consultation; and confirms the role of the Design Council (or similar) in undertaking a design review of the substations. Means to further improve the design of the substations is therefore secured through the Substations Design Principles Statement.

ID	SASES' Comment	Applicants' Comments
	and environmental impact are all important considerations, and not one as a priority at the expense of others.	
Agenda Item 3 Flood Risk and Drainage		
9	9. SASES have commented on flood risk and drainage during construction and operation in its Deadline 12 submission on flood risk.	Noted.
COMMENTS ON SUBSTATION DESIGN PRINCIPLES STATEMENT		
10	10. See comments in respect of paragraph 71 above concerning noise mitigation.	The Applicants refer to their comments at ID2 to ID5 in response to SASES' comments made in respect of noise matters.
11	11. SASES position remains unchanged from that previously submitted at Deadline 11, especially with regard to the need for a Design Review Panel with a broad remit as strongly recommended by National Infrastructure Commission and the November 2020 Treasury Report. This position is taken in order to secure the best outcome for all affected parties of any consented project. Efficient Design Review should result on a first time right, on time outcome, that all can be satisfied with, and SASES is surprised the Applicants do not currently support this approach.	See ID8.
12	12. The need for such a panel is demonstrated by the debate concerning the height of harmonic filters see paragragh 6 above. In ISH 16 the Applicant accepted the validity of SASES' submissions regarding the possibility of splitting the power capacitor banks to reduce their height and visual impact. It should be noted that at Phase 1 consultation the harmonic filters were to	See ID8 and ID6 above. SASES reference to the harmonic filters at Phase 3.5 is incorrect and misleading. Due to the coastal location of the Broom Covert location, the harmonic filters would require additional protection against corrosion, therefore an enclosure was incorporated within the conceptual design of the harmonic filters within the Broom Covert substation. As the Grove Wood

ID	SASES' Comment	Applicants' Comments
	be 21m high but this was reduced at Phase 2 consultation to 18m. SASES was told that this was because of the removal of enclosures over the filters intended to reduce noise emissions. Later, at Phase 3.5 consultation, the enclosures were brought back in, this time apparently because of concerns about salt in the atmosphere causing corrosion to the electrical apparatus. But they are not present in the current plans. The absence of filter enclosures from the current proposal should therefore mean that there is spare area on the substation footprint which may well be adequate to accommodate split power capacitor banks. In the absence of a design review panel with a member who was a power engineering expertise this type of issue may well be overlooked and/or not properly addressed.	location is further inland, there is no need for this additional protection against corrosion. Phase 3.5 consultation did not therefore consider enclosed harmonic filters at the Grove Wood substation, nor does the Applications. The onshore substations will be designed in an integrated design basis, meaning that any change to say the harmonic filters must be considered in light of consequential changes to the onshore substation footprint, noise emissions, visual impacts etc. The Applicants have sought consent for Projects which have defined maximum parameters appropriate for this outline stage of project development. Furthermore, design principles have been established to ensure good design continues through the detailed design process to ensure a safe and efficient substation design is progressed which seeks to reduce the environmental impact where practicable and efficient to do so.
13	13. Also as has been demonstrated by SASES' submissions in relation to design, design should not be firmly fixed before there is meaningful consultation with the community otherwise the consultation will be meaningless.	The ***Substations Design Principles Statement*** (AS-133) sets out the basis on which consultation is to be undertaken by the Applicants and balances the regulatory need for a safe, efficient and cost effective design, using appropriately certified equipment in compliance with the DCO parameters, and which addresses the design principles.
14	14. The plan currently attached to the SDPS is inadequate as it omits many key features for which design is relevant. It is suggested that the OLMP General Arrangements Fig 3 and Fig. 9 (GIS version) from the latest OLEMS would be appropriate with the caveat that these be corrected to include all the overhead cable connections etc as set out in SASES Deadline 11 Submission - Comments on the Drawings in the Design and Layout of the Substations (REP11-177).	It is clear from the ***Substations Design Principles Statement*** (AS-133) that the Figure presented is provided for geographic context only: *"The onshore substation eastern and western locations are illustrated in Figure 1".* The Applicants consider that there is no benefit in including further figures within the Substations Design Principles Statement given the scope of the design principles and community consultation is clearly set out within the text.

ID	SASES' Comment	Applicants' Comments
COMMENTS ON HERITAGE ASSESSMENT GIS ADDENDUM		
15	15. See comments of Dr Richard Hoggett - Cultural Heritage Assessment: Third Addendum attached at Appendix 2.	The Applicants refer to their comments at ID22 to ID42.
COMMENTS ON LANDSCAPE AND VISUAL IMPACT ASSESSMENT GIS ADDENDUM		
16	16. See comments of Michelle Bolger - Landscape Briefing Note 11 attached at Appendix 3.	The Applicants refer to their comments at ID43 to ID59.
APPENDIX 1		
17	Report of meeting of noise experts and others 16 June 2021 10:00-12:30 The meeting was held in response to an action point which arose from issue specific hearing 17: ***4. Engagement with ESC and SASES or noise provisions*** *Noting the potential to reach final agreed positions on provisions relevant to the control of noise, the Applicants are asked to engage in final dialogue with ESC and SASES.* Discussion took place in the context of the requirements of Overarching National Policy Statement for Energy (EN-1) and its paragraph 5.11.4 Applicant's assessment, under the heading Noise and Vibration	Please refer to comments at ID18 to ID21 for the Applicants' responses to specific matters raised within Rupert Thornley-Taylor's meeting notes.
18	**Matters noted** It was noted that, with regard to the first bullet point of 5.11.4 that the applicant should include "identification of any distinctive tonal, impulsive or low frequency characteristics of the noise;" the	The Applicants do not consider SASES' comments on 'Matters noted' to be an accurate reflection of the discussions held at the meeting on 16th June 2021. The Applicants refer to their detailed responses to SASES' Deadline 11 submissions and further detail on the post Deadline 11 engagement with

ID	SASES' Comment	Applicants' Comments
	applicants were not in possession of 1/3 octave band source noise data to enable the reference method set out in Annex D to BS 4142:2014+A1:2019 to be used in the assessment of whether tonal penalties apply, in accordance with requirement 27(2), prior to the close of the examination. With regard to the last bullet point in 5.11.4 in EN-1, requiring the applicant to include "measures to be employed in mitigating noise." It was noted that as the applicants had made no assessment of tonality there had not been an engineering assessment of the achievability of the requirement should the result of the tonality assessment lead to a tonality correction and a need for further noise reduction.	SASES within its ***Applicants' Comments on SASES' Deadline 11 Submissions*** (REP12-034), specifically at ID2 in ***section 2.3***.
19	**Matters agreed** On the third bullet point "the characteristics of the existing noise environment;" it was agreed that background noise levels were low enough to necessitate consideration of absolute levels as referred to in BS 4142. It was agreed that BS 4142 does not state numerical values of absolute levels. It was agreed that compliance with the noise requirements in requirement 27 should apply at all times and not solely at the times of compliance surveys, and that if ESC received complaints they would be assessed against the noise limit requirements at any time, whether or not compliance had been demonstrated during a previous noise survey, and enforced accordingly.	The Applicants agree with SASES' summary of the agreed matters, and refer to their detailed responses to SASES' Deadline 11 submissions and further detail on the post Deadline 11 engagement with SASES within its ***Applicants' Comments on SASES' Deadline 11 Submissions*** (REP12-034) (specifically ID11 in ***section 2.3***).
20	**Matters not agreed** The applicants and SASES did not agree the appropriate level arising from consideration of the need for an absolute criterion.	The Applicants do not consider SASES' notes on 'Matters not agreed' to be an accurate reflection of the discussions held within the meeting on 16th June 2021.

ID	SASES' Comment	Applicants' Comments
	SASES have requested that a limit of a rating level of 30 dB LAeq (15 minutes) be substituted for the figures of 31 dB and 32 dB in requirement 27(1)(a) and 27(1)(b) respectively. The applicants do not agree to this on the grounds that the figures of 31 and 32 represent the lowest levels the applicants can achieve. There was disagreement on the understanding of the wording included in BS4142 regarding context. The applicants' experts did not agree that St Mary's church should be subject to a noise requirement as requested by SASES.	The Applicants refer to its detailed responses to SASES' Deadline 11 submissions and further detail on the post-Deadline 11 engagement with SASES within its ***Applicants' Comments on SASES' Deadline 11 Submissions*** (REP12-034) (particularly ID12, ***Section 2.3***).
21	**The position of SASES** RT reported that his concerns in respect of the specific matters discussed in the meeting, of which he has advised SASES, would be met if 1) The noise limit requirement in the DCO is reduced to a rating level of 30 dB LAeq (15 minute) 2) Prior to grant of a DCO a 1/3 octave band assessment is carried out to determine the identification of any distinctive tonal characteristics, in conformity with EN-1 5.11.4. 3) Prior to grant of a DCO engineering consideration of the mitigation measures needed to mitigate any identified tonal character is provided, in conformity with EN-1 5.11.4. 4) The wording of the DCO is clarified so that the requirement 27 noise limits will apply at all times in the future, without regard to any compliance monitoring results that may have been previously submitted.	The Applicants refer to its full response to points 1-3 noted by SASES is provided in the ***Applicants' Comments on SASES' Deadline 11 Submissions*** submitted at Dealine 12 (REP12-034). No clarification to Requirment 27 of the ***draft DCO*** (document reference 3.1) is considered to be necessary. The wording of Requirement 27 of the ***draft DCO*** (document reference 3.1) does not stipulate times at which the operational noise emissions must comply with the specified maximum operational noise rating levels. As such, the cumulative noise emissions associated with the cumulative operation of the Projects' onshore substations simultaneously with the National Grid substation must not exceed the specified rating levels **at any time**.

ID	SASES' Comment	Applicants' Comments
APPENDIX 2 – Cultural Heritage Assessment: Third Addendum		
1. Introduction		
22	1.1 This is a further addendum to the Cultural Heritage Assessment prepared by Richard Hoggett Heritage for SASES, dated October 2020 and submitted at Deadline 1, the first Cultural Heritage Assessment: Addendum, dated January 2021 and submitted at Deadline 3, and the second Cultural Heritage Assessment: Addendum, dated April 2021., and submitted at Deadline 9.	The Applicants note that following a request by ESC, the ***Heritage Assessment GIS Addendum*** (REP11-075) was provided alongside the ***Landscape and Visual Impact Assessment GIS Addendum*** (REP11-028) to demonstrate consideration of the differences in potential impacts associated with the different National Grid substation switchgear technologies. These assessments were provided to the Examinations for information only. The assessment of the worst case scenario (an AIS National Grid substation) has been presented previously and the conclusions within the ***Heritage Assessment Addendum*** (REP4-006) and the ***Landscape and Visual Impact Assessment Addendum*** (REP4-031) submitted at Deadline 4 remain unchanged. The Applicants note and welcome that SASES agrees with the conclusions of the ***Heritage Assessment Addendum*** (REP4-006) that there is no meaningful difference in effects upon heritage setting between the use of either an AIS or GIS technology for the National Grid substation.
23	1.2 This document provides commentary on the 'Heritage Assessment GIS Addendum' (ExA.AS-30.D11.V1) submitted by the applicants at Deadline 11, in which they present the results of an additional assessment of the impact of the proposed schemes on surrounding heritage assets, assuming that the National Grid Substation employed gas-insulated switchgear (GIS). The applicants' initial assessment, and subsequent revision, were both based on the premise that the National Grid substation would employ air-insulated switchgear (AIS). It should be noted	Noted. As above, the ***Heritage Assessment GIS Addendum*** (REP11-075) was submitted to the Examinations for information only, and the Applicants maintain their position that the Air Insulated Switchgear (AIS) National Grid substation represents the worst case scenario regarding potential environmental impacts. The assessment of the worst case scenario (an AIS National Grid substation) has been presented previously, and the conclusions presented within the ***Heritage Assessment Addendum*** (REP4-006) submitted at Deadline 4 remain valid.

ID	SASES' Comment	Applicants' Comments
	that the proposals for the EA1N and EA2 substations remain unchanged in this assessment.	
24	1.3 As is to be expected, the vast majority of the applicants' new report repeats verbatim the content of the initial reports, particularly with regard to the significance of the affected heritage assets. We have commented at length on the shortcomings of these assessments in our previous submissions, and do not consider it necessary to repeat these arguments again at this very late stage of the proceedings.	The Applicants note the ongoing difference in professional judgement between themselves and SASES regarding conclusions of effect magnitude and the associated significance of effect but have consistently been, and continue to be, resolute in its assessment of effects on the setting of heritage assets, for reasons set out extensively within previous submissions.
25	1.4 Similarly, the new assessment only focusses on the visual change in the setting of the affected heritage assets during the operational phase of the projects, and again we have previously stated our belief that the impacts of the construction and decommissioning phases should also be a material consideration and in such assessment.	The Applicants refer to their response at ID8 in ***section 2.1*** within this document in response to this comment by SASES.
26	1.5 This addendum focusses on the differences in the conclusions drawn in the applicants' previous assessments and the current assessment, which result from the proposed use of GIS over AIS.	Noted.
2. Cultural Heritage Impact		
27	2.1 As has been discussed at length in previous documents and during oral submissions, the list of affected heritage assets comprises seven listed buildings which surround the site: d) Little Moor Farm (1215743, Grade II); e) High House Farm (1216049, Grade II);	Noted.

ID	SASES' Comment	Applicants' Comments
	f) Friston House (1216066, Grade II); g) Woodside Farmhouse (1215744, Grade II); and h) Church of St Mary, Friston (1287864, Grade II*); i) Friston War Memorial (1435814, Grade II); j) Friston Post Mill (1215741, Grade II*).	
28	2.2 In the new assessments of the impact in individual heritage assets caused by the switch to GIS, there is no change from the conclusions presented by the applicant in their initial assessment. As has been discussed in previous submissions, I do not support these conclusions and they have also been challenged by many of the other parties with heritage expertise, including Historic England.	The Applicants note the ongoing difference in professional judgement between themselves and SASES regarding conclusions of effect magnitude and the associated significance of effect, but have consistently been, and continue to be, resolute in their assessment of effects on the setting of heritage assets, for reasons set out extensively within previous submissions. The Applicants recognise that these remain specific topic-matters upon which it and SASES do not and will not agree upon.
29	2.3 With regard to Little Moor Farm, there is no change to the applicant's original conclusions that the proposals would result in an impact of medium magnitude translating into an effect of moderate significance, and I would agree with this assessment. However, the new assessment also repeats the initial conclusion that the proposals would results in impact of low magnitude on High House Farm, translating into an effect of minor significance. I have consistently disagreed with this assessment since the outset, and consider that any impact recognised for Little Moor Farm has equivalence for High House Farm. Therefore, for the reasons set out in previous submissions, I consider the applicants underestimate the impact on High House Farm, which should be recognised as an impact of medium magnitude translating into an effect of moderate significance.	

ID	SASES' Comment	Applicants' Comments
30	2.4 As discussed in previous submissions, I disagree with the applicants' identification of the setting of Friston House and, therefore, also disagree with their assessment of the impact which the proposed developments will have upon that significance. Again, in this new assessment the applicants' conclusions remain unchanged, with a negligible impact of minor significance being identified. As argued previously, I consider this to be an impact of low magnitude translating to a minor significance of effect.	
31	2.5 With regard to Woodside Farmhouse, the applicants conclusion is again unchanged, in that the scheme would result in an impact of low magnitude and minor significance. In my previous submissions, I have identified this harm as being of medium magnitude of impact resulting in a moderate significance of effect.	
32	2.6 The assessment of the impact of the proposals on the Church of St Mary is also unchanged, with the applicants identifying a low magnitude of impact resulting in a moderate significance of effect. As has been rehearsed at length in written and oral submissions during the course of this hearing, I do not agree with the applicants' identification of a low magnitude impact of the main proposals on the church of St Mary, instead identifying a high magnitude of impact equating to a major significance of effect. In planning terms, this would equate to 'less than substantial harm' at the upper end of the scale, and this is an opinion shared by many of the respondents with heritage expertise in this case.	
33	2.7 The revised assessment of the impact on Friston War Memorial also remains unchanged, with the applicant identifying	

ID	SASES' Comment	Applicants' Comments
	a negligible magnitude of impact under the proposed scheme equating to an effect of minor significance. In my own previous assessments, I have disagreed with the applicants' conclusions regarding both the extent of the setting of the memorial and the degree to which that setting contributes towards its significance, identifying instead a medium magnitude of impact resulting in a moderate significance of effect, equating to 'less than substantial harm'.	
34	2.8 With regard to Friston Post Mill, I agree with the applicant that the proposed scheme results in a negligible magnitude of impact causing an minor significance of effect, and do not consider that this will be changed by the proposed expansion of the National Grid substation.	Noted.
3. Outline Landscape Mitigation Plan (OLMP),		
35	3.1 The final section of the GIS addendum assesses the reduction in this impact which might be achieved by the application of the Outline Landscape Mitigation Plan (OLMP), giving a residual impact on each of the heritage assets.	Noted.
36	3.2 With regard to Little Moor Farm, the applicant considers that the OLMP will provide a substantial degree of mitigation, although the assessment states that 'these proposals would not entirely screen the setting of Little Moor Farm from the onshore substations and National Grid substation'. They consider that this will reduce the impact to low magnitude, equating to a minor significance. However, significant concerns have been raised throughout these proceedings about the reliability of the projected	The Applicants note that the Councils agree that the implementation of the adaptive management scheme set out within the ***OLEMS*** (document reference 8.7) will help achieve the growth rates assessed (see statement LA-02.13 and LA-13.11 of the Statement of Common Ground (SoCG) with the Councils (REP12-070)).

ID	SASES' Comment	Applicants' Comments
	growth rates, which are considered to be overly optimistic, and it is considered that the degree of screening anticipated by the applicant will not be achievable given the constrains of the local environment. These issues have been discussed at greater length in other submissions by SASES and others.	
37	3.3 In the case of High House Farm, the applicant concludes that the proposals contained within the OLMP would reduce the impact on significance, but not sufficiently to change their assessment of impact. That is to say, that the proposals in the Outline Landscape Mitigation Plan do not actually mitigate the impact of the scheme on High House Farm. Similarly, in their revised assessment the applicant concludes that the proposals in the OLMP would 'reduce but not remove the visibility of the substations' from Friston House, and their final assessment again remains unaffected by the proposed mitigation.	As above, the Applicants note that the Councils agree that the implementation of the adaptive management scheme set out within the ***OLEMS*** (document reference 8.7) will help achieve the growth rates assessed (see statement LA-02.13 and LA-13.11 of the SoCG with the Councils (REP12-070)). However, the Applicants also note the ongoing difference in professional judgement between themselves and SASES regarding conclusions of effect magnitude and the associated significance of effect. The Applicants maintain their assessment of effects on the setting of heritage assets is valid for reasons set out extensively within previous submissions. The Applicants recognise that these remain specific topic-matters upon which it and SASES do not and will not agree upon.
38	3.4 With regard to Woodside Farmhouse, the applicant concludes that the OLMP would considerably reduce the impact on significance, as after 15 years the proposed woodland would be tall enough to screen the substations, with the exception of their highest gantries. Consequently, the applicants reduce their assessment to an impact of negligible magnitude of minor significance. Again, as with Little Moor Farm, this reduction is contingent upon growth rates the achievability of which is subject to question, and it is not considered that this will be sufficient to mitigate the impact in this fashion.	
39	3.6 Finally, the applicants conclude that the proposals within the OLMP will not be sufficient to reduce the identified impacts on the Church of St Mary, the Friston War Memorial or the Friston Post	

ID	SASES' Comment	Applicants' Comments
	Mill either. Again, this would appear to indicate that the proposed mitigation measures are considered by the applicants' own heritage experts not to be effective in reducing the impact of the proposed scheme on heritage assets.	
4. Conclusion		
40	4.1 The 'Heritage Assessment GIS Addendum' (ExA.AS-30.D11.V1) submitted by the applicants at Deadline 11 indicates that there is no meaningful difference in heritage impact between the adoption of air-insulated or gas-insulated switchgear at the National Grid substation. I would agree with this conclusion, but I do not agree with the conclusions of the assessments of heritage impact presented by the applicants.	Noted. The Applicants welcome SASES' agreement with the conclusions of the ***Heritage Assessment Addendum*** (REP4-006) that there is no meaningful difference in effects upon heritage setting between the use of either an AIS or GIS technology for the National Grid substation.
41	4.2 As I have set out previously, I do not agree with most of the conclusions reached by the applicants in their various heritage impact assessments, particularly with regard to their assessments of the impact on the church of St Mary and the surrounding farmhouses. For reference, my assessments of these impacts are summarised, together with those of the applicant, in the table below and full details can be found in my Cultural Heritage Assessment submitted at Deadline 1. *[Refer to REP12-X for SASES summary table of heritage impacts]*	The Applicants also note the ongoing difference in professional judgement between themselves and SASES regarding conclusions of effect magnitude and the associated significance of effect but have consistently been, and continue to be, resolute in their assessment of effects on the setting of heritage assets, for reasons set out extensively within previous submissions. The Applicants recognise that these remain specific topic-matters upon which it and SASES do not and will not agree upon.
42	4.4 With regard to the proposals set out in the Outline Landscape Mitigation Plan, it is telling that in most cases the applicants' own heritage experts do not consider that the proposals offer sufficient mitigation to reduce their assessment of heritage impact. This effectively means that the proposed mitigation schemes do not	A number of parties to the Examination have indicated that mitigation is only successful when it moves an effect from being significant to non-significant. That is often something which is not achievable. Reducing the intensity of a significant effect is genuine mitigation and should not be dismissed purely on the basis that it does not lead to the effect no longer being significant. Such an

ID	SASES' Comment	Applicants' Comments
	work. In the two instances where the OLMP is thought to reduce heritage impact, both cases rely upon the achievement of a rate of tree-growth which is considered to be overly optimistic given the constraints of the local environment.	approach would over emphasise the mitigation of marginally significant effects as opposed to reducing the intensity of those effects of a greater magnitude.
APPENDIX 3 – Landscape Briefing Note 11		
REP11-028 ExA.AS-4.D11.V1 EA1N&EA2 Landscape and Visual Impact Assessment GIS Addendum Version 01 (LIVIA GIS Addendum)		
43	1. REP11-028 and Appendices provide an assessment of the difference in visual impact between the choice of a GIS system for the NG Substation or an AIS system. The choice of a GIS NG Substation which has a smaller footprint might have allowed for additional mitigation through the rearrangement of other elements of the NG Substation that are particularly visually intrusive (such as the additional pylon or the larger sealing end compound), or through additional structural planting or reduction in the overall landtake. However, none of these opportunities have been considered, the only difference under consideration is whether the main body of the NG Substation uses an AIS or GIS system.	The Applicants note that following a request by ESC, ***Landscape and Visual Impact Assessment Addendum*** (REP4-031) was provided alongside the ***Heritage Assessment GIS Addendum*** (REP11-075) to demonstrate consideration of the differences in potential impacts associated with the different National Grid substation switchgear technologies. These assessments were provided the Examinations for information only. The assessment of the worst case scenario (an AIS National Grid substation) has been presented previously and the conclusions within the ***Landscape and Visual Impact Assessment Addendum*** (REP4-031) and the ***Heritage Assessment Addendum*** (REP4-006) submitted at Deadline 4 remain valid. The landscape architect employed by SASES claims that the electrical configurations have not been reconsidered for the GIS scheme. This is not accurate, and the photomontages are provided by the Applicants are based on a 3D model that provides the same amount of detail as that for the AIS. This reflects the current outline design. In moving to these lines of argument it appears that the landscape architect is becoming an advocate for SASES as opposed to assessing matters within the field of their professional competence.

ID	SASES' Comment	Applicants' Comments
		Regarding SESAS' suggestion that the smaller footprint of a GIS National Grid substation could have allowed for additional mitigation through the rearrangement of electrical equipment / structures, the Applicants note that technical issues relating to the overhead connections have a considerable influence on the position of the National Grid infrastructure. It is the case that the smaller footprint could allow for additional landscaping, however this is likely to be severely constrained by the planting height restrictions associated with overhead lines.
44	2. Some of the reasoning behind this limited consideration of alternatives is provided in the latest version of the Outline Landscape and Ecological Management Strategy (OLEMS) 11th June Revision: Version 06 which states that '*The outline design of the strategic planting proposals of the landscape scheme (i.e. that planting which provides the most effective landscape framework and visual mitigation) is such that it does not sterilise land for potential future development associated with the National Grid substation.*' A similar statement was queried by the ExA (Question 3.10.4) and SPR's answer was '*The quote from the OLEMS (REP10-005) is poorly worded*'. However , the revised statement conveys the same information, that allowing for potential future development associated with the National Grid substation has been a factor taken into account when designing the strategic planting for the scheme.	See comments at ID3.10.4 in ***section 2.5***.
45	3. Based on the narrow choice between the GIS system and the AIS system I agree with the conclusion of the LVIA addendum that there would be no overall visual benefit to adopting one system rather than the other. I do not agree with the conclusions in the LVIA Addendum with regard to the degree and significance of the harm as I have previously set out. Having reviewed the	The Applicants note that there remain differences in professional judgement regarding the magnitude and significance of potential landscape and visual effects. However, the Applicants confirm that its assessment of LVIA effects as presented within the ***Landscape and Visual Impact Assessment Addendum*** (REP4-031) and ***Landscape and Visual Impact Assessment GIS Addendum*** (REP11-028) follow the same assessment methodology set

ID	SASES' Comment	Applicants' Comments
	alternative visualisations from the 8 viewpoints selected I have a number of additional comments to make which are set out below:	out within ***Chapter 29*** of the ES (APP-077) and submit that the conclusions of the assessments are robust.
46	4. From **Vp 2** which is a particularly sensitive location on the edge of Friston village, the GIS building is clearly visible above the intervening tree line and noticeably worse than the AIS option. The statement in the LVIA GIS Addendum that '*The NG GIS substation will be largely screened by intervening planting by Year 15* ' is inaccurate; there is little change after 15 years. Indeed, it is partly contradicted by the following statement in the LVIA GIS Addendum that '*the upper part of the GIS building will be visible over the tree tops*.'	The Applicants note that 'largely' screened does not equate to 'fully' screened and don't see any contradiction in the summary, when taken in its full context, for the magnitude of change experienced at viewpoint 2 at 15-years post construction: *"The NG GIS substation will be largely screened by intervening planting by Year 15, however the upper part of the GIS building will be visible over the tree tops, in the immediate context of existing overhead pylons"*.
47	5. The LVIA GIS Addendum does not point out that what can be seen in this visualisation does not reflect the full spread of the equipment which will extend visually to the left, almost as far as the next set of pylons. These pylons are outside the frame of the visualisations but can be seen on the left of the 90 degree baseline photograph (Figure 29.14a). To the left of the GIS building will be the additional pylon and the largest sealing end compound. Although they are just behind the tree on the left-hand edge of the visualisations they will be clearly visible a few metres down the PRoW.	The Applicants assume that SASES is referring to the existing pylons on the extreme west of the frame of view in ***Figure 29.14a***. The pylons that are affected by the Projects are shown on figure 29.14a. The visual extent of the cumulative development of both Projects with a GIS technology National Grid substation at a sample of the viewpoint locations agreed with the relevant ETG is illustrated within each of the appendices of the ***Landscape and Visual Impact Assessment GIS Addendum*** (REP11-029 to REP11-036).
48	7 From **Vp 3** it is agreed that the choice of AIS or GIS will make no difference. However, it has been pointed out previously that this location on Grove Road at the start of the footpath does not represent views from the footpath itself, from where there will be much more open views towards the substations. The GIS option	For consistency of approach and to enable a direct comparison, the visualisations presented within the appendices to the ***Landscape and Visual Impact Assessment GIS Addendum*** (REP11-029 to REP11-036) present the views from the same viewpoint locations as those presented within original Applications (APP-394). Cultural Heritage Viewpoint 4 (REP11-078) and Cultural Heritage Viewpoint 3 (PRE11-077) present views of the onshore

ID	SASES' Comment	Applicants' Comments
	is likely to be more intrusive than the AIS option from this footpath.	substations from the north, at points further west of LVIA Viewpoint 3 along the existing Public Right of Way (PRoW) network.
49	6. From **Vp 5** the AIS option is visually more intrusive. However, it is the largest sealing end compound and the introduction of an additional pylon, significantly closer to the viewpoint than any of the existing pylons, that are the most intrusive element in these views and these sit to the west of the gap that would be created. This intrusiveness is particularly harmful from Vp 5 because the pylon and the sealing end compound are directly in front of the view towards Friston church. It is this particular arrangement that is most harmful to the visual amenity from Vp 5, the visual amenity of the residents of High House Farm and the setting of the historic farmhouse (see evidence of Dr Richard Hoggett).	The Applicants note that, on balance, they consider an AIS National Grid substation to be the worst-case due to the extent of visual effects. The ***Landscape and Visual Impact Assessment Addendum*** (REP4-031) sets out the Applicants' assessment of visual effects associated with an AIS National Grid substation.
50	7. The visualisations from Vp 5 are not fully representative of the visual harm as they do not include several components that would be present. The omissions area set out in SASES REP11-177 *Comments on the drawings in the design and layout of the substation's submission in response to Rule 17QE Issued on 13 May 2021*. For ease of reference the omissions listed are: k) The OHLs end on the right-hand pylon, when in fact they continue on; l) The quad core OHLs are shown as thin cables; m) The cables are inaccurately positioned on the tension pylon, they should be much higher; n) None of the OHL insulators are shown (they will be especially prominent on the tension pylon by the western most sealing end); and	The Applicants refer to its comments in ***section 2.7*** of the ***Applicants Comments on SASES' Deadline 11 Submissions*** (REP12-034) which respond to this matter.

ID	SASES' Comment	Applicants' Comments
	o) The many cables and insulators and hardware from the sealing ends and gantries up to the OHL are not shown.	
51	8. The GIS option would be visually less intrusive from Vp 5 especially if only one SPR substation was constructed which, as previously indicated would be on the site of the eastern substation. However, no planting mitigation, or other mitigation such as relinquishing of the land freed up is proposed should the GIS option be chosen, or only a single SPR substation constructed. Consequently, few of the potential benefits of these options would be realised.	Noted. SASES' position supports that of the Applicants: on balance, the AIS National Grid substation represents a worst-case scenario. The visual effects associated with the worst-case scenario (i.e. the AIS National Grid substation) have been assessed within the ***Landscape and Visual Impact Assessment Addendum*** submitted at Deadline 4 (REP4-031).
52	9. It appears that the AIS baseline 53.5 degree image for **Vp 9** (Figure 29.21a) includes the additional pylon so is not actually the baseline view. This is not immediately apparent because it is to the left of a telegraph pole. In reality, as one moves around this location the telegraph pole will have little effect on the visibility of this additional pylon. There is very little reference in the LVIA or the LVIA GIS addendum to the impact of the additional pylon, the re-routing of the overhead line or the cables running from the largest sealing end compound to the pylon. Within the ES LVIA and its subsequent Addendums the pylons are almost always mentioned in mitigating terms, such as in the description of the view of the GIS building from Vp 9 '*It is also viewed in the context of the large-scale overhead pylons and high-voltage cables that form the backdrop to Friston in this view.*' The additional pylon, which will be as large or larger than any of the other pylons, will be inserted into what is currently a wide gap between two sets of pylons. This is the gap against which the church, for example is currently viewed. Whilst the additional pylon is not immediately adjacent to the church from Vp 9 it is likely that it will be closer	The Applicants note a production error in the AIS baseline 53.5 degree field of view, but confirm that the AIS baseline 90 degree field of view is correct within ***Appendix 16*** of the ***Landscape and Visual Impact Assessment GIS Addendum*** (REP11-044).

ID	SASES' Comment	Applicants' Comments
	and more intrusive from other locations in the near vicinity, particularly when the telegraph pole is not in the immediate foreground.	
Applicants' Response to ExA WQ3 Volume 7		
53	10. In ExA question 3.10.2 they identify that '*the garden of High House Farm provided clear views across a largely open landscape to the Church of St Mary.*' Vp 5 shows a similar open view across to the church as that from High House Farm. In response to ExA question 3.10.2, SPR's justification for enclosing this view by planting appears to be that '*The Applicants recognise that this will have to balance various interests.*' It is unclear how '*consultation with local residents ... to discuss their expectations for landscape work in the vicinity of their properties*' can address this issue satisfactorily.	Local residents views and expectations regarding the landscape planting within the vicinity of their properties will be considered in the preparation of the final landscape masterplan. Local residents may have suggestions on planting density, species mixes and set back distances for instance. The final approved Landscape Management Plan (LMP) will be implemented pursuant to Requirement 15 of the ***draft DCO*** (document reference 3.1). The final LMP will secure an appropriate planting scheme (with consideration of affected local residents views) and management measures to ensure the effective establishment and continued growth of planted trees and shrubs.
54	11. The severity of the impact on the views from High House Farm is a consequence of the severance that the development will cause between the historic farmhouse to the north and the village and its church to the south. As previously identified, this is a visual severance (as evidenced from Vp 5), a physical severance (the substations/sealing end compounds will lie between the farmhouse and the village) and a severance of connection (the historic route between the village to the farmhouses will be permanently lost).	As previously submitted, the Applicants do not agree with SASES assertions and consider that SASES overstates the contribution of views from High House Farm to its significance as a heritage asset, and subsequent assessment of effect of the Projects on the heritage setting of High House Farm. This is a matter that the Applicants and SASES do not and will not reach agreement on, given an unresolvable difference in professional judgement regarding the conclusions of effect magnitude and the associated significance of effect. The Applicants have consistently been, and continue to be, resolute in their assessment of effects on the setting of heritage assets, for reasons set out extensively within previous submissions.

ID	SASES' Comment	Applicants' Comments
55	12. The only explicit reference to the harm that would be caused by the additional pylon is in response to the ExA question 3.10.3. As previously set out I consider that the proposals would have the effect of making the pylons more dominant than they currently appear. Although SPR are reluctant to accept this point they do acknowledge that '*the proposed substations may draw further visual attention to the electrical infrastructure, increasing the legibility of the function of the pylons/transmission lines in the landscape.*' They have also accepted ' *the presence of the additional pylon in the view towards Friston (next to the larger sealing end compound with circuit breaker)*' will '*contribute to increasing the visual influence of overhead pylons in the local landscape.*' I consider that this is in effect accepting that the proposals would have the effect of making the pylon line (which would include the additional pylon) more dominant than they currently appear.	The Applicants note SASES' comments. Whilst the Applicants do not agree with SASES' interpretation of its submission, it has no further comments on this matter.
Rule 17 Questions of 18 June 2021 (R17QF)		
56	13. R17QF.7 c) SASES drainage consultant has been pointing out for some time that the woodland within the SUDS basins, described as 'wet woodland' would be incompatible with the use of the basin for drainage. In addition to the incompatibility, SPR have accepted that the conditions for wet woodland would not be present, and it has been omitted from the Outline Landscape and Ecological Management Strategy 11th June Revision: Version 06 (OLEMS V6). As SASES have been pointing out for some time, there have been significant 'drought' periods in the recent past in this part of	The Applicants refer to their comments at ID2 in ***section 2.***1 regarding the original reasoning for including wet woodland within the footprint of the operational SuDS basins and why it has since been removed.

ID	SASES' Comment	Applicants' Comments
	East Anglia and it is reasonable to suppose that they will occur in the future.	
57	14. The approach to planting in and around the SUDS basins is an example of the over optimistic approach adopted by SPR with regard to the planting generally. OLEMS V6 Figure 3 has presented and still presents a visually misleading view of the SUDS basins, suggesting that they will be 'soft' features in the landscape. They will need to be structures engineered to appropriately safety standards, consistent with the retention of 1,000's m3 of water immediately uphill of residential housing. Bunding is shown on OLEMS V6 Figure 4 although whether the basins will require bunding has deliberately been left vague. Engineered basins may have more in common with the adjacent substations that the landscape that they are replacing.	The Applicants refer to their comments at ID3 in ***section 2.1*** in response to SASES comment at ID57.
58	15. The rationale behind the latest changes to the SUDS basins and associated planting is unclear and leaves several unanswered questions about the effectiveness of the mitigation planting in this area. In particular, with reference to OLEMS V6 Figure 3: p) Why has the southern basin has been rotated? q) Why is the mitigation woodland shown immediately adjacent to the bund of the northern basin but at some distance from the bund of the southern basin? r) Does OLEMS V6 Figure 3 show the 5m clearance (no trees or shrubs) around the footprint of the northern SUDS basin which the outline operational drainage management plan states will be maintained.	The Applicants refer to their comments at ID4 in ***section 2.1*** in response to SASES comment at ID58

ID	SASES' Comment	Applicants' Comments
59	16. Both SUDS basins ae close to the route of the PRoW which is to be retained and will become the most direct route to the landscape to the north of Friston in which the historic farmhouses are located. A potential reduction in the depth of planting that can be accommodated has the potential to affect the visibility of the SUDS basins and the substations from the PRoW.	The Applicants have now, following initial infiltration testing, demonstrated that it is feasible to design a functional operational drainage scheme without affecting the current proposals within the OLMP. The Applicants note that SCC as the LLFA is now agreed with the outline operational drainage scheme (see statement LA-05.20 of the SoCG with the Councils (REP12-070)). As such, the Applicants are confident that the depth of planting between the operational SuDS basins and the PRoW to the west will not be compromised (i.e. reduced) as a result of the operational SuDS basins. The design of the operational SuDS basins will be refined post-consent following further infiltration testing undertaken as part of the detailed design process.

2.10 SASES' Deadline 12 Submission in Respect of Costs (REP12-124)

ID	SASES's Comment	Applicants' Comments
INTRODUCTION		
1	1. Throughout the Examination process the Applicants have made numerous submissions a number of which were only necessary because of inadequacies in their DCO applications. This conduct has continued during extended Examination period. 2. Aside from the costs implications resulting from the Applicants' conduct, this conduct also has the effect of excluding interested parties who, relative to the applicants, have far less financial and other resources which renders the Examinations inherently unfair. 3. This behaviour was and is unreasonable and justifies an award of costs in accordance with the guidance in "Awards of costs: examinations of applications for development consent orders" ("the Guidance"). 4. A particular issue arises in relation to the Applicants' behaviour in respect of the topic of flood risk further details of which are set out below.	The Applicants do not accept the characterisation of the Examination as presented by SASES. The purpose of the Examination is to enable the ExA to gain information to enable recommendations to be submitted to the Secretary of State. Through a process of questions, written submissions and oral hearings information is gathered. It is not unusual for there to be a disagreement on approaches to matters and for engagement to then occur. Indeed the Examination is a process which offers the opportunity for engagement and refinement of an Applicant's project. Another part of the process is that parties should seek to work outside of the formal Examination process to try and make progress on issues. The Applicants had deliberately chosen not to disclose the fact that SASES chose to delay engagement with the Applicants over technical issues. The ExA invited the Applicants to seek to engage with SASES on a SoCG. In September 2020 the Applicants sought to engage with SASES. The Applicants received a response from SASES on 9 September 2020 stating that having discussed the matter with their counsel, there would be no engagement until they had submitted their topic submissions at the beginning of November. It was SASES that tactically delayed the engagement on those topics. Notwithstanding that position the Applicants have continued to engage and respond to all of SASES' submissions and they have, where appropriate, been involved in technical discussions.

ID	SASES's Comment	Applicants' Comments
		The basis for an award of costs is that a party must have acted unreasonably and that the unreasonable behaviour must have caused unnecessary or wasted expense. ***Chapter 20*** of the ES (APP-068) provides an assessment on Water Resources and Flood Risk. It is supported by ***Appendix 20.3 - Flood Risk Assessment*** (APP-496). In terms of matters before the Examination, the key issues are whether the infrastructure permitted under the order would be subject to unacceptable flood risk and can the Projects be designed in a manner whereby there is no increase in flood risk downstream. The main issue between the lead local flood authority (LLFA) (Suffolk County Council) and the Applicants has been the level of detail required in relation to the surface water management mitigation. The Applicants' approach was to provide indicative measures on the basis of the fact the onshore substations and National Grid infrastructure are still indicative. This is a standard approach and had been accepted by the LLFA in respect of East Anglia ONE. It was also consistent with Appendix A to the Suffolk Flood Risk Management Strategy. Section 3 of which sets out "what we expect to see". On page 10 the 'Detailed Development Layout and SuDS Provision Plan' is not expected at the outline stage. In the column below the 'Full SI Report' including BRE 365 trial pits are not expected at this stage either. Post Application, in February 2020, SCC published Interim Guidance in respect of Appendix A. This fundamentally changed the level of information that SCC now require. This sets two time periods for compliance. One set of standards applied for applications from 28 February 2020 to 31st December 2020 and more stringent guidance from the start of 2021. The guidance was issued on the back of experience that the LLFA had had with certain housing developments. It is clear that this change in guidance had influenced the approach that the LLFA were taking to the Applicants' drainage mitigation. That is the reason why

ID	SASES's Comment	Applicants' Comments
		the Applicants undertook further testing in May of this year. This information has enabled there to be a very high level of agreement with the LLFA both in terms of the mitigation to be provided and the discharge to the Friston watercourse. It is agreed that the infrastructure to be provided will ensure that there is no increased flood risk to Friston and indeed opportunities have been taken to ensure that there will be a material reduction in the site's contribution in extreme events.
FLOOD RISK		
2	5. As the Examining Authorities are aware flood risk has been a long-standing concern of the community of Friston with a number of residents having their homes flooded in the past. As a result issues of flood risk and drainage were brought to the Applicants' attention during the consultation process in 2019 not least because Scottish Power had failed to take account of surface water flood risk during the site selection process which has been the subject of previous submissions by SASES.	SASES in ID 2 to 4 fail to make the basic distinction between overland flows on site and flood risk to Friston. The impression is given that the Applicants were unaware of the of flood risk at Friston. ***Chapter 20*** (APP-068) table 20.1 sets out consultation responses at various stages. The Applicants have been fully aware of the potential flooding issues. It was considered and commented on by the expert topic group (see ***Appendix 20.1 – Water Resources and Flood Risk Consultation Responses*** (APP-494)) and assessed in the ***Flood Risk Assessment*** (***Appendix 20.3*** (APP-496)). From the outset the drainage plans have been premised on not increasing any flood risk to Friston. That is committed to in ***Chapter 20*** (APP-068). It is clear that contrary to the assertions made by SASES, the Applicants have fully assessed the risk to Friston and identified the mitigation measures to ensure that they would be delivered.
3	6. To discuss this and other issues a meeting was held between SASES and Friston Parish Council with David Walker, the then Development Director of Scottish Power Renewables, on 12 July 2019. At that meeting the issues and concerns over flood risk were discussed and David Walker indicated that he would send a flood	SPR has not refused to send a flood engineer to Friston. Indeed, various visits to the substation site and surrounding area have been undertaken by drainage engineers, flood risk specialists and environmental specialists during the pre-application stage in order to establish and verify baseline conditions, including visits with Mr Matt Williams of Suffolk County Council.

ID	SASES's Comment	Applicants' Comments
	engineer to Friston to properly understand the issues. However he subsequently refused to do so.	The Applicants have a full and comprehensive understanding of the baseline flood risk of the area.
4	7. Friston Parish Council and SASES wrote to Scottish Power on this and other issues on 19 July 2019 and a copy of this letter is attached. The Examining Authorities will note the remarkable consistency between the issues raised in this letter and what has been discussed during the course of the Examinations.	A wide range of matters have been discussed during Examination and it is no surprise that matters that the Applicants were engaging the local community on during the pre-application discussions, form an element of the matters that have been addressed during the Projects' Examinations. This demonstrated the Applicants awareness of the sensitivities of such matters, which has allowed adequate mitigation to be developed (such as reduction in noise limits at the nearest sensitive receptors as agreed with the Councils; the operational surface water drainage concept design as agreed with the Councils; traffic and transport mitigation measures as agreed with the Councils and the outline landscape mitigation plan as agreed with the Councils (see statement LA-13.34 of the SoCG with the Councils (REP12-070)).
5	8. SASES contends that had Scottish Power/the Applicants: a. listened to Friston Parish Council and SASES in July 2019; b. properly considered pluvial flood risk before submitting their applications, either: (i) they would not have proceeded with their applications on the basis that the Friston site should have been excluded by proper application of the sequential test (justifying a full award of costs); or (ii) at the very least far fewer submissions and fewer, if any, hearings on flood risk would have been necessary (justifying a partial award of costs);	The second issue is whether the Applicants considered pluvial flows on site during the selection of the site. The Applicants did consider the potential implications of the overland flow located on the northern end of the National Grid substation. Again this matter was fully considered by the project development team when considering the site. The nature and character of the flow was evaluated and it was concluded that it could be diverted round the National Grid substation. It is not unusual in infrastructure projects for such flows to be diverted. SASES have tried to characterise this flow as flooding. It is not. This was further reinforced by the data provided in the BMT Cordah Technical report. The underlying data has been analysed by the Applicants and reported in section 3.6.1.1 of the ***OODMP*** (REP12-057). This information supported and validated the conclusions that the Applicants had reached. This level of overland flow would not be classified as flooding. In terms of management, this further

ID	SASES's Comment	Applicants' Comments
		confirms the ability to move the flow north and west. This will ensure that the National Grid substation is at no material risk of flooding.
6	**Item (i)** 9. In relation to item (i) SASES submits that the Applicants' failure to properly assess flood risk and apply the sequential test is contrary to policy. Had Scottish Power properly assessed pluvial flood risk from the outset the Applicants would not have proposed Friston as a site. In the terms of Part C of the Guidance this was "An application for development consent… for a proposal that is clearly contrary to or flies in the face of a relevant designated national policy statement" (see paragraph 4). Accordingly SASES is entitled to all its costs in preparing for and participating in the Examinations.	SASES have not properly analysed the material and seem to suggest that development in proximity to a drainage flow is an embargo on any development. The relevant NPS policy is set out in section 5.7. Paragraph 5.7.9 sets out the decision making test. An FRA has been undertaken. It identifies flood risks throughout the Order limits and sets how the sequential approach has been applied. At the substation the site is classified as zone 1 for flooding. The overland flow to the north is a flow not flooding. The SuDS system has been designed having regard to the hierarchy set out nationally in the PPG, in line with the Suffolk Flood Risk Management Strategy (also including the new standards set out post application) and the Local Plan Policy. This has been agreed with the relevant LLFA and the Councils. The Projects meet the sequential test set out in 5.7.13. Parts of the cable works are proposed in an area in flood risk 3. The justification for cables being located there are fully justified in ***Appendix 20.3 - Flood Risk Assessment*** (APP-496). The argument SASES seem to advance is that the overland flows to the north of the proposed National Grid substation constitute pluvial flooding. The Applicants do not accept that characterisation. Furthermore, the pluvial characteristic is not included in paragraph 5.7.13 of EN-1 For this argument SASES have to rely on paragraph 158 of the NPPF –"any flooding". For paragraph 158 to apply the nature of the flow would have to constitute flooding. However, even if the sequential tests were failed on that basis, the exception tests set out in paragraph 160 of the NPPF would be met. The Projects deliver national sustainability benefits. The flood risk to the infrastructure can be managed and the flood risk elsewhere will not be increased and as promoted by policy there will be a reduction in the overall risk.

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7	**Item (ii)** 10. In relation to item (ii) as evidence of the unreasonable behaviour of the Applicants, they did not produce an outline operational drainage management plan until Deadline 3. The Applicants then produced a further three versions of that plan prior to the end of the original Examination period. A fifth version of that plan was submitted on 11th June after the last deadline, Deadline 11. This was the "late submission of documents" and the introduction of "fresh or substantial evidence at a late stage, necessitating the preparation and submission by any other party or parties of additional submissions or evidence that would not have been required if the fresh or substantial additional evidence had been submitted on time" (see Guidance, Part C, paragraph 3).	The LLFA requested the Applicants to carry out infiltration testing to test the extent that infiltration solutions could be maximised in accordance with the SuDS hierarchy. Initial testing was undertaken to provide information to discuss at ISH16. This was followed up with more detailed testing. SASES have been kept informed on the testing and results were released early to them. In addition, the further analysis was expedited and lodged with the Examination as soon as possible, in line with the Applicants' commitment at ISH16. It is noted that SASES have raised further issues with the testing. SASES continue to misunderstand the nature and extent of the investigations that have been undertaken. These infiltration tests are not for the purposes of formulating the detailed design, further testing will be undertaken once the precise requirements arising from the design of the electrical infrastructure is known. It is at this point that the further detailed testing would be undertaken to finalise the design of the operational drainage infrastructure. SASES appear to treat the current round of investigations as that process. It is not. The results have however facilitated significant areas of agreement with the LLFA/Councils. In terms of timing, BRE advice on soakaway design recommends that survey work is undertaken in April/May this is what the Applicants have sought to achieve. The information has been analysed and produced as quickly as possible. The Applicants' conduct has not been unreasonable. They have engaged positively with all parties during the Examination and where possible they have sought to narrow issues. They have brought forward investigation work which has given the LLFA and the Councils the confidence to agree key operational drainage matters.
8	11. Further there have been no less than three separate issue specific hearings at which flood risk has had to be considered	There are many topics which have been the subject of a number of hearings. Drainage issues involve a range of technical matters. The Applicants consider that each of the hearings have been justified given the nature of the material.

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9	12. The Applicants have only very recently carried out any infiltration testing which is a fundamental requirement in order to understand flood risk at the site and the feasibility of possible mitigation. Even now and despite the Examinations being extended, the infiltration tests which have been conducted are defective - see SASES Deadline 12 Submission on Flood Risk.	Infiltration testing forms part of the operational drainage mitigation. As narrated above, infiltration testing is usually undertaken as part of the detailed design process. At that point in time the final footprint of the substations will be known and the areas of hard standing will be known and therefore the designs can be specified. That approach was reflected in Appendix A of the Suffolk Flood Risk Management strategy and BRE 365 states that "*site investigation and testing should be carried out prior to design or construction works taking place; this is part of the design process*". The fact that infiltration testing has been carried out at this stage is not standard practice. It is not a fundamental requirement to understand flood risk. It influences mitigation design.
10	13. As a result SASES has incurred substantial expense in instructing experts and counsel to address flood risk matters including, without limitation, the preparation for and attendance at issue specific hearings.	It is up to SASES to determine what issues it engages on. The Applicants have worked with the LLFA in relation to flood matters. The LLFA have sought to progress design matters earlier in the process than has been standard. That reflects their new approach to SuDS design.
CONCLUSION		
11	14. In short the Applicants' behaviour in respect of their DCO applications and the conduct of the Examinations has been unreasonable and that behaviour has caused SASES unnecessary costs.	The Applicants have responded to all of the points made by SASES. SASES have deliberately sought to distort the issues and have failed to consider them appropriately. The potential for the Projects to add to the existing flooding issues at Friston have been known about and acted on by the Applicants. Commitments have been made in terms of the discharge rates and the design of infrastructure from the outset. The separate issue of overland flow (SASES' pluvial flooding) on site has also been known to and dealt with by the Applicants. The movement of the flow can be achieved and the infrastructure is protected from the flow. SASES

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		misinterpret policy. An overland flow to the north of the National Grid infrastructure is not flooding. However, even if it is it can be appropriately managed. SASES do not even attempt to address the exceptions test. The reason for that is that they know the answer would not favour their position. The only information that has come late on in the Examination is the infiltration testing. The ground investigations have to be undertaken at an appropriate time. This responds to requests form the LLFA to have greater certainty around the outline design of operational drainage infrastructure. The information has been provided as quickly as possible and was forwarded to SASES in advance of submission into the Examination. Far from being unreasonable the provision of this information in advance of the close of the Examination has been helpful.
12	15. SASES respectfully requests that the Examining Authorities consider these matters and make an award of costs in SASES favour.	The submissions made by SASES have no sound basis. It is right that drainage issues should be considered. There is a significant volume of information in the ES ***Chapter 20*** (APP-068) and Appendices. They cover and assess all of the issues raised by SASES. The only new information has been the infiltration testing which has helped refine the mitigation and had been requested by the LLFA. The production of this information was appropriate. The claim for expenses should be refused.