East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on SASES' Deadline 1 Submissions

(Landscape, Noise, Traffic and Transport, Safety and DCO)

Applicant: East Anglia TWO and East Anglia ONE North Limited
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Applicable to East Anglia ONE North and East Anglia TWO

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Table of Contents

Glossary of Acronyms

ACoW	Arboricultural Clerk Of Works
AIL	Abnormal Indivsible Load
AMP	Access Management Plan
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality management Area
CCS	Construction Consolidation Site
CCTV	Closed-circuit Television
CIA	Cumulative Impact Assessment
CoCP	Code of Construction Practice
COMAH	Control Of Major Accident Hazards
DCO	Development Consent Order
dBA	A-weighted decibels, abbreviated
DTS	Distributed Temperature Sensing
EA1N	East Anglia ONE North
EA2	East Anglia TWO
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EMP	Ecological Management Plan
ES	Environmental Statement
ESDAL	Electronic Service Delivery for Abnormal Loads
ETG	Expert Topic Group
ExA	Examining Authority
GEART	Guidelines for the Environmental Assessment of Road Traffic
HDD	Horizontal Directional Drill
HGV	Heavy Goods Vehicle
HSE	Health and Saftey Executive
LCV	Light Commercial Vehicle
LGV	Light Goods Vehicle
LMP	Landscape Management Plan
LVIA	Landscape and Visual Impact Assessment
mph	Miles Per Hour
MW	Mega Watt
NGET	National Grid Electricity Transmission
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NTS	Non-technical Summary
OAMP	Outline Access Management Plan
OcoCP	Outline Code of Construction Practice
OCTMP	Outline Construction Traffic Management Plan
OLEMS	Outline Landscape and Ecological Management Strategy
OLMP	Outline Landscape Management Plan
OTP	Outline Travel Plan
PEIR	Preliminary Environmental Information Report
PIDs	Public Information Days
PRoW	Public Rights of Way
POAR	Permenant Operational Access Road
RAG	Red Amber Green
SASES	Substation Action Save East Suffolk
SCC	Suffolk County Council
SoCG	Statement of Common Ground
SPR	ScottishPower Renewables

SuDS	Sustainable Urban Drainage Systems
TA	Transport Assessment
TPO	Tree Preservation Order
UK	United Kingdom
WR	Written Representation

Glossary of Terminology

Applicants	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.
Construction consolidation sites	Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure.
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
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 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.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission plc

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 overhead line realignment works	Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid.
National Grid overhead line realignment works area	The proposed area for National Grid overhead line realignment works.
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 cable corridor	The corridor within which the onshore cable route will be located.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore cables	The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.
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.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.

1 Introduction

1. The Applicants' comments on Written Representations (WR) received from Substation Action Save East Suffolk (SASES) for the East Anglia ONE North project and the East Anglia TWO project ('the Projects') have been separated into two Volumes.

2. This Volume (Volume 2) presents the Applicants' comments on WRs received from SASES for the following topics and has been submitted at Deadline 4:

   - Traffic and Transport;
   - Development Consent Order;
   - Safety;
   - Noise; and
   - Landscape and Visual.

3. The Applicants' comments on these WRs have been provided in ***section 2*** below.

4. It should be noted that the oral submissions made during the Hearings by SASES reflected the submissions made within these Written Representations.

5. Some of the documents referred to in the Applicants' responses are currently being updated and will be submitted later in the Examination process. This has been specified as appropriate in the Applicants' responses.

6. This document is applicable to both the East Anglia ONE North and East Anglia TWO 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) procedural decisions on document management of 23rd December 2019. Whilst for completeness of the record this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it again for the other project.

2 Comments on SASES' Written Representations

2.1 Traffic and Transport

Table 2.1 Applicants Comments on EN10078-002542-DL1 – Traffic and Transport

ID	Written Representation	Applicants' Comments
Summary		
01	4. The onshore activity necessary for the construction and later operational use of EA1(N), and EA2 and the National Grid connection hub will depend almost exclusively of use of the public road network in and around Friston. There is only one A class road in the immediate area, the A1094, which provides a direct link between the nearest trunk road (A 12) and Aldeburgh. All other roads are either B class roads, minor roads and by-ways, many being single track with passing places serving villages and farms. In the summer months the traffic numbers are swelled by tourists.	Please see the responses provided by the Applicants in ID rows 04-78 below.
02	5. The build plus the associated cable connections to the coast will require extensive earth movement by tracked plant and tipper type trucks plus deliveries brought in by heavy goods vehicles. There will be need for a large number of ancillary vehicles including workers' transport and hospitality vehicles, excavation and cable ducting works, delivery of electrical apparatus such as transformers and switch gear plus permanent roadways for access and maintenance. The proposed development(s) may last between approximately 4 and 7 years and the operational life of the substation(s) perhaps 30 years or more. The duration of the decommissioning process has not been disclosed by the Applicant.	

ID	Written Representation	Applicants' Comments
03	6. The reality of any increase in road traffic in a rural area is an increased concern by local residents regarding: • Noise, dust and pollutants • Congestion on narrow roads and junctions • Perceived danger to cyclists, horse riders and pedestrians in the absence of refuges such as pavements • Loss of amenity to cyclists and walkers • Perceived Increased collision risk brought about by proximity of HGVs reducing the visual field of other road users • Fear and intimidation experienced by local residents when confronted by HGVs moving on narrow roads.	
A12 and A1094		
04	7. The A12 to A1094 junction known as Friday Street is an accident black spot. The Applicant assesses that before mitigation the impact of the proposed increase in traffic is "major adverse" . The analysis and information provided in respect of mitigating this impact are inadequate as are the proposed mitigation measures together with the monitoring of those measures – see further paragraphs of Section 1 below.	***Chapter 26 Traffic and Transport*** (APP-074) assesses the residual impacts at the A12/A1094 as minor adverse (not significant) following the application of mitigation measures outlined in ***section 26.6.1.10.2*** augmented by the management and monitoring measures presented in the ***Outline Construction Traffic Management Plan*** (OCTMP) (REP3-032) and the ***Outline Travel Plan*** (REP3-036) submitted at Deadline 3. The Applicants' have engaged with the Councils to develop a scheme (without prejudice to the commitments within the ES and DCO) that would further improve the current road safety baseline with the objective of alleviating concerns relating to the existing junction, which would also assist in managing construction traffic. This has culminated in an agreement with the Councils for the Applicants to introduce a traffic signal scheme.

ID	Written Representation	Applicants' Comments
		A ***Traffic and Transport Clarification Note*** has been submitted at Deadline 4 (document reference ExA.AS-26.D4.V1) that sets out the details of this traffic signal scheme.
05	8. Beyond Friday Street the A1094 is narrow and twisting with occasional inclines. The Applicant does not appear to have carried out an analysis to determine if/how construction traffic, particularly HGV's can readily pass each other on the road without adverse effect upon other road users. The Applicant needs to demonstrate that the largest vehicles proposed (other than AILs) can navigate these routes without causing increased congestion – see further paragraphs of section one below.	***Appendix 26.6*** (APP-532) shows that the A1094 is designated by Suffolk County Council (exercising their highway powers) as a 'Zone distributor route' within the Suffolk Lorry Route hierarchy, this plan still remains current[1]. This is defined as "roads within a zone serving as a route directly to a location or as a route to local access routes". A Zone distributor route links the strategic routes across Suffolk to local delivery routes and therefore by definition has been assessed by the highway authority as a suitable distributor for assigning county Heavy Goods Vehicle (HGV) traffic to local routes. In keeping with this designation there are no restrictions (height, width, weight) on HGV movements on this link and as noted in ***Table 26.12*** of ***Chapter 26 Traffic and Transport*** (APP-074), the A1094 is attracts a daily average of 397 HGVs a day. The Applicants' strategy for HGV access applies a hierarchical approach utilising the Suffolk Lorry Route network for the majority of journeys, to reduce the impact of HGV traffic on the most sensitive communities. The assessment of highway impact is proportional, acknowledging the suitability of these routes for HGV traffic and limiting detailed highway geometry assessment to those locations identified as constrained to HGV flow during consultation with the Councils (***section 26.6.1.12*** of ***Chapter 26 Traffic and Transport*** (APP-074).

[1] https://www.suffolk.gov.uk/assets/Roads-and-transport/lorry-management/Lorry-Route-Map-Amended-MAY-17.pdf

ID	Written Representation	Applicants' Comments
		As set out in ***ES Appendix 26.1*** (REP-527) the HGV routes have been informed by extensive consultation with the Councils and subject to a number amendments as a result of those discussions prior to finalising.
06	9. The junction of the a 1094/B1069/unnamed road, known as the Snape Crossroads, is another accident cluster and also suffers serious congestion not least because it is the main access to the cultural and retail destination of Snape Maltings. This junction will also become further congested as a result of traffic seeking to avoid the congestion on the A12. The Applicant has not analysed the increased congestion, the impact or proposed any mitigation measures.	Engagement with Highways England and the Councils during the development of the application ***ES Appendix 26.1*** (REP-527) refers, examined all junction with in the Traffic and Transport study area to identify junctions and roads (links) that were susceptible to driver delay (congestion) and therefore particularly sensitive to changes in traffic flow. Accordingly, these areas were subject to detailed capacity assessment as presented in ***sections 26.6.1.11*** and ***26.7.2.1.1.3*** of ***Chapter 26 Traffic and Transport*** (APP-074) and section 26.1.3.6 of ES Appendix 26.2 (APP-.528). Areas that have not been identified as sensitive to traffic flow are considered to be of negligible sensitivity and therefore any impacts would not be significant. In consultation with the local highway authority, the Snape Crossroads was not identified as particularly sensitive to changes in traffic flow and therefore has been deemed to be of negligible sensitivity and has not been subject to a detailed assessment.
07	10. Beyond Snape Crossroads to the B1121 and B1069 junctions the A1094 is used by cyclists as it forms part of the Sandlings way and part of a designated national cycle path. There is no refuge in the form of pavements or laybys. Increased traffic particularly HGV raises concerns with regard to safety and congestion which have not been analysed.	The approach to assessing the potential impacts upon road safety was determined with the Councils and Highways England during pre-application engagement. Suffolk County Council's response to ***ExA Q1.18.9*** (REP1-188) confirms the methodology is acceptable to the highway authority. The approach involves detailed consideration of collision clusters and collision rates utilising data collected by the Police on collisions (known as Stats 19 data) to determine user groups (including cyclists and HGVs) and causation factors. This is

ID	Written Representation	Applicants' Comments
		detailed within ***section 26.5.4*** of ***Chapter 26 Traffic and Transport*** (APP-074). ***Chapter 26 Traffic and Transport*** notes that the collision rate along the A1094 is just below the national average. Further review of the numbers of collisions along the A1094 has shown a material downward trend occurring annually and therefore the link is assessed as having a low sensitivity and a minor adverse impact upon road safety is assessed. Therefore, no route specific mitigation is proposed. ***Section 2.2.6*** of the ***Outline CTMP*** submitted at Deadline 3 (REP3-032) sets out general road safety provisions for the Projects.
Friston Specific Issues		
08	11. Within Traffic and Transport Chapter 26 [APP-074] there is little clarity regarding the purpose of access points 12/13 in particular the Applicant fails to show the impact that these access points or the associated works will have on the community of Friston. (Sections 3 and 4 of this document). In particular: • The flow and designation of all traffic is missing. • The monitoring of disturbance on the residents of Friston is missing. • Mitigation for the safe use of the roads by pedestrians, cyclists and vehicles is missing.	***Table 26.22*** of ***Chapter 26 Traffic and Transport*** (APP-074) details that access to the onshore cable route section 4, the onshore substation and National Grid Substation and Infrastructure would be provided from the access 10 on the B1069, necessitating vehicles to 'cross over' Grove Road at crossing points 11 and 12. The ***Outline Access Management Plan*** (REP3-034) details that the crossings would only permit construction traffic to cross from one side of the existing public highway to the other. No construction access or egress would be permitted from the crossing points from/onto Grove Road. With regards to access 13, ***section 26.6.1.6*** of ***Chapter 26 Traffic and Transport*** (APP-074) outlines that during the construction phase, once this access is available, it would be used by National Grid employees (i.e. no HGVs).

ID	Written Representation	Applicants' Comments
		Upon completion of construction, ***section 26.6.2*** of ***Chapter 26 Traffic and Transport*** details that access to the onshore substation would be via access 13 and that vehicle movements would be limited to occasional repair, maintenance and inspection visits. ***Table 26.23*** of ***Chapter 26 Traffic and Transport*** and ***Table A26.2*** of ***Appendix 26.2*** (APP-528) provides details of the numbers of construction traffic movements forecast to pass along links 5 and 7 (through Friston) for the sequential and simultaneous construction of the Projects respectively. It can be noted that during the construction phase, links 5 and 7 would experience a worst case increase in total daily traffic flows of up to 5% for the sequential construction of the Projects and 6% simultaneous construction of the Projects. ***Section 26.4.3*** of ***Chapter 26 Traffic and Transport*** and ***section 26.1.3.2 of Appendix 26.2*** (APP-528) outlines a screening process (taken from the Guidelines for the Environmental Assessment of Road Traffic (GEART)) to define the extent of the assessment. This screening process notes that for specifically sensitive areas, where traffic flows (or HGV component) are predicted to increase by less than 10% environmental effects would not be discernible or negligible. Noting that changes in traffic flows via links 5 and 7 are below GEART screening, the no significant impacts upon amenity and severance are forecast.
09	12. Traffic flows per day are summarised in Tables 26.19 (HGV's) and 26.20(Construction Workers) Chapter 26 Traffic and Transport (APP-074) These tables are confusing and it is unclear to the reader how any vehicle movements are proposed.	***Section 26.6.1.5*** of ***Chapter 26 Traffic and Transport*** (APP-074) notes that ***Tables 26.20*** (HGVs) and ***26.21*** (Light Commercial Vehicles (LCVs[2])) provide an 'extract' from tables within ***Appendix 26.14*** (APP-540) which show the peak daily HGV and LCV

[2] The term LCV is defined in the response to ID xx

ID	Written Representation	Applicants' Comments
10	13. The tables focus on the peak flows per month and the "missing" months are presumed to be lower, however it is not clear and the Applicant should clarify this point.	movements per discrete site. These movements are assigned to the highway network using the methodology described in ***section 26.6.1.6*** of ***Chapter 26 Traffic and Transport***. ***Table 26.23 of Chapter 26 Traffic and Transport and Table A26.2 of Appendix 26.2 (APP-528)*** summarise the assigned daily peak two-way vehicle movements (i.e. arrivals and departures) of all materials, personnel and plant during the peak combined month when distributed across the highway network. Full details of monthly construction traffic demand is provided in ***Appendix 26.14*** (APP-540) and ***Appendix 26.23*** (APP-549)
11	14. Further detail of the flows exist in Appendix 26.14 /15 and 26.23. (APP 540) Whilst Table 26.19 of Chapter 26 (Traffic and Transport) match the figures contained in 26.14 for HGV's the figures in 26.21 (Construction workers of Chapter 26 traffic and Transport do not match and are half that indicated in Appendix 26.15.	***Appendix 26.15*** (APP-541) and Appendix 26.24 (APP-550) presents total LCVs and establish the number of two-way movements, (i.e. the inbound movements and outbound trips) by doubling. The numbers presented in ***Table 26.21*** of ***Chapter 26 Traffic and Transport*** (APP-074) represent the two-way daily LCV movements per month, per discrete site. The numbers shown in blue in ***Table 26.21*** represent the peak construction period for each discrete site.
12	15. The Applicant must clarify the variation in these figures without which an understanding of the full impacts of the traffic volumes are unclear. The Applicant has failed to address these issues which are further highlighted in the following representation.	
Conclusion		
13	16. There are many questions which need answering including, without limitation, those below. • How will the traffic movements on the A12/A1094 junction after completion of their proposed mitigation be monitored?	In response to each of the points: • The updated ***Outline CTMP*** (REP3-032) and the ***Outline Travel Plan*** (REP3-036) submitted at Deadline 3 set out comprehensive monitoring measures for the duration of the Projects' construction phase.

ID	Written Representation	Applicants' Comments
	• How will the changes on commercial, domestic tourist traffic movement as a result of the mitigation measures at the A12/A1094 junction be monitored? • How will the safe and efficient passage of all traffic on the A1094 be ensured? • Will a full Transport strategy addressing the NPS EN-3 requirement for detailed consideration of use of water and rail links be produced? When will a full detailed document detailing maps, use, timescales of use, and preparation for accesses 13 and 12 (including traffic volume routed and designations) be produced?	• To satisfy their duties as network manager Suffolk County Council (SCC) monitor trends in traffic flows on Suffolk's main road network through a series of traffic count sites. In addition, the DfT publishes annual traffic flows on major routes in Suffolk including the A12 and A1094. • The updated ***Outline CTMP*** (REP3-032) and the ***Outline Travel Plan*** (REP3-036) submitted at Deadline 3 presents the requirements and standards that will be incorporated into the final CTMP to manage the Projects' construction traffic to ensure the safe and efficient passage of all traffic on the A1094. • The ***Applicants' Responses to Examining Authority's Written Questions*** (REP1-121) Q1.18.23 provides clarification in response to the use of rail links and ports. • The ***Outline Access Management Plan*** (AMP) (REP3-034) reinforces commitments made in the ES and presents the requirements and standards that will be incorporated into the final access design. A final detailed AMP will be produced post-consent, prior to onshore construction of the Project. Under Requirement 16 of the ***draft DCO*** (REP3-011) this must accord with the ***Outline AMP***.
14	17. There are a significant number of errors and omissions in the Applicant's assessment and many questions, which remain unanswered as set out in the text below. Accordingly the assessment does not comply with section 5.13 of EN-1.	The Applicants do not agree that there are a significant number of errors and omissions in the Applicant's assessment. The assessment is robust, has been prepared in consultation with the Councils and Highways England and follows relevant national guidance. The Applicants refer to their responses to representations made in the rows below.

ID	Written Representation	Applicants' Comments
SECTION ONE – CONSTRUCTION TRAFFIC ON A12 AND 1094		
15	18. The Applicant begins by stating the proposed increase in traffic to be assessed as a "major adverse "effect on the traffic conditions at the A12/A1094 junction Chapter 26 Traffic and Transport 26.6.1.10.2 Cluster 3 then goes on in 26.6.10.2 SPR cite further mitigation measures Paras 295-301. Within these paragraphs The Applicant places undue reliance on EDF and their future plans to alleviate the traffic issues for themselves.	***Paragraphs 295 – 297*** of ***Chapter 26 Traffic and Transport*** (APP-074) explains that EDF Energy have proposed to replace the junction of the A12 and A1094 with a roundabout as part of the proposals for Sizewell C and that the replacement of the existing junction would help to alleviate the existing road safety issues and provide a modern standard compliant junction. The passage notes that it is unclear whether the Sizewell C New Nuclear Power Station proposals would come forward, therefore a package of mitigation measures that allows Projects to proceed independently is outlined. The Applicants' latest position regarding proposals for measures at the A12/A1094 Friday Street junction are detailed above in row ID 04.
16	19. The Applicant concludes in Para 301 (APP-074): "*in summary for cluster 3 it is forecast that the PIER package of highway movements improvements augmented with measures to manage employee traffic movements during peak hours (as defined by the OTP) would result in a predicted magnitude effect of* ***negligible*** *on a high sensitive receptor with an assessed residual impact of* ***minor adverse***"	Please refer to the Applicants' response in ID 13.
17	20. What monitoring processes will the Applicant have in place to track the traffic conditions as a result of their mitigation measures?	
18	21. In their Relevant Representation Suffolk County Council state their views regarding the Applicant's approach to mitigation at this junction (AoC-007) as follows:	The Applicants' have continued engagement with SCC post application to address their concerns on the existing junction arrangements and the Projects use of this junction.

ID	Written Representation	Applicants' Comments
	"*Traffic and Transport - The Council considers that the proposals are inadequate in a number of ways including: the provisions for abnormal loads are insufficient, particularly for the future as AIL access for maintenance and decommissioning are not assessed in either the ES or Transport Assessment (TA) beyond local widening of the B1069/A1094 junction; the proposals to reduce the southbound A12 speed limit to 40 mph at the Friday Street A12/A1094 junction together with new rumble strips and an adjustment to the existing speed camera would not be adequate in the Local Highway Authority's professional opinion to avoid an increase in accidents and that alternative mitigation is required to do so including potentially a roundabout; no provision has been made to enter into a planning obligation with the Local Highway Authority to cover the cost of necessary highways works, for example permanent changes to the A12 speed limit at Benhall; the cumulative impact of this project and other future energy projects has not been assessed in transport terms, this specifically impacts the Stratford St Andrew Air Quality management Area (AQMA); the operational, maintenance and decommissioning activities of EA1(N), EA2 have been scoped out of the ES and TA; that limits of traffic movements have not been included in the outline Construction Transport Management Plan to limit the transport impacts to those assessed in the ES and TA"*	The Applicants refer to the ***Traffic and Transport Clarification Note*** submitted to the Examinations at Deadline 4 (document reference ExA.AS-26.D4.V1) regarding the Friday Street A12/A1094 junction measures and the Applicants delivery of a traffic signal solution for this junction. An updated Statement of Common Ground will be submitted to Examination which reflects the Applicants commitment to deliver traffic signals at the Friday Street junction.
19	22. Whilst a roundabout may improve safety it will increase congestion. Accordingly if this form of mitigation is agreed, the Applicant should make proposals as to how it intends to monitor and deal with the impact caused by roundabouts. In particular: • The potential for further congestion at an already busy junction	A roundabout solution does not form part of the Applications or the additional measures proposed by the Applicants at the Friday Street junction. .

ID	Written Representation	Applicants' Comments
	• The slower acceleration and deceleration of larger vehicles i.e. HGVs • The timescale for any works associated with the construction of a roundabout • Diversion of traffic during its construction and the associated impact on by roads as alternative routes • Loss of income for retail outlets due road closures	
20	23. The build of EA1(N) and EA2 substations plus the NG connection hub is clearly a roads based development, and it is inferred, from Traffic and Transport Ch.26 Ref 1 that the primary route into and out of the designated development area will be via the A12, with a significant part of transport load entering and leaving via the A12 - A1094 junction (Friday Street). At this point it should be noted that a new road running between the A12 and the site of the proposed Sizewell C Nuclear Power Station is envisaged, but as yet congruence with the Applicant's proposals is unclear.	The Applicants refer to the ***Clarification Note*** (REP2-009) on potential cumulative effects and interactions with Sizewell C Nuclear Power Station which was submitted to the Examinations at Deadline 2.
21	24. Regarding the current state of the A12, Highways East of England Route Strategy, published in 2017 states: Ref 2 "*the region is highly dependent on the A12, as it is the only major access North and South for communities and freight companies to Lowestoft and Great Yarmouth" …..*"congestion on the A12 is a potential barrier for Economic prosperity*"…….	The assessment presented within ***Chapter 26 Traffic and Transport*** (APP-074) has not assumed any highway upgrades unconnected to the Projects.
22	25. That section of the A12 between Ipswich and Great Yarmouth has not received any funding for road improvements following this review and the section remains less than adequate for current vehicle movement. It is recognised that it needs upgrading, however the next round of reviews is not due to start until 2020-2025. This would	

ID	Written Representation	Applicants' Comments
	indicate strongly that the Applicant would be ill advised to assume an upgrade to this route will provide mitigation for the increased traffic associated with construction.	
23	26. The Applicant should therefore make clear how it intends to mitigate any disruption to the supply chain caused by accidents, delays and road works on the A12 and A1094 roads and provide assurance that vehicular traffic directly engaged in construction will not resort to using the B1121 and smaller by-roads.	***Section 2.2.7*** of the ***Outline CTMP*** (REP3-032) includes details of measures proposed to manage and reduce the potential for the construction HGV traffic to have an adverse impact upon the highway network during planned and unplanned events.
24	27. Suffolk County Council (SCC) in conjunction with Highways England established designated HGV routes in East Suffolk for access to locations. The designation was established in 2011-2017 Ref 3. It should be noted that these designations were established to aid the safe passage of local traffic and vehicles serving local businesses and residential premises. There is no indication that they were ever produced to aid large scale onshore civil engineering programmes such as EA1(N) and EA2.	In response to each of the points the Applicants offer the following clarifications: The Applicants' response in row ID-05 clarifies the approach to assessing HGV routes in the Applications in accordance with the Suffolk Lorry Route Hierarchy. The Applicants note that the B1121 and A1094 have been recently submitted to SCC's cabinet as part of a suite of 148 County-wide schemes for consideration to be included in the Suffolk Regional Cycling Plan. It is unclear what the delivery mechanism for these schemes is, notwithstanding, it is incumbent on SCC as the scheme promoter to consult stakeholders to ensure that needs of all road users are balanced in the design. ***Table 26.23*** of ***Chapter 26 Traffic and Transport*** and ***Table A26.2*** of ***Appendix 26.2*** (APP-528) provides details of the numbers of construction HGV movements through the onshore highway study area. ***Section 26.6.1.12*** includes details of the swept path analysis that has been undertaken to assess if critical junctions present a constraint to the free flow of traffic. This swept path analysis has been undertaken using an articulated HGV and a rigid body tipper
25	It is thus incumbent on the Applicant: • To explain why a designation established in 2011-2015 to route vehicles on roads designed for local traffic only, and which have had no significant subsequent upgrades, can now be considered suitable for major volumes of construction traffic in 2023 involving HGVs. • To explain why it now considers it acceptable to employ the largest size of HGV (typically earth/spoil removal types such as tipper trucks) on what are acknowledged to be narrow rural roads. • To show that it has carried out surveys that confirm HGV vehicles of the type and dimensions it proposes to use, will be	

ID	Written Representation	Applicants' Comments
	able to pass safely on A1094 and B1069. This is essential because all such movements are "two-way movements" and current local experience shows frequent mounting of verges are needed to facilitate passage. The route has recently been included for upgrading of the Suffolk Regional Cycling Plan. **Ref 4** • To show clearly the size, tonnage and number of axles, speed limits for those HGVs to be employed in the construction programme (see Ch.26 p.32),(APP-074) such that local residents can understand risks posed at a personal level.	vehicle, the dimensions of which are shown in ***Appendix 26.21*** (APP-547). These vehicles represent the types of vehicles likely to be used to deliver materials during the construction phase. The majority of the fleet would comprise of rigid body tipper vehicles. A precise configuration of the HGV fleet would be determined prior to the submission of the final Construction Traffic Management Plan when a principal contractor is appointed and pursuant to the discharge of Requirement 28 of the ***draft DCO*** (REP3-011).
26	29. Regarding the junction of the A12 with the A1094 (cluster site 3), the Applicant cites that a proposal by Suffolk County Council exist to replace the junction entirely as part of the SEGway project. However, given this is not yet constructed and is outside the Applicant's control, the Applicant is proposing the following mitigation measures: • A temporary reduction on posted speed limit in advance of the junction from 50mph to 40mph Southbound and Northbound • Provision of enhanced warning signage to better highlight the junction to approaching drivers • Provision of rumble strips and associated markings, to provide audible and visual warning of the hazard to approaching drivers	Please refer to the Applicants' response to ID 18. The Road Traffic Regulation Act 1988 places a duty on a Local Highway Authority to take such measures as appear to the authority to be appropriate to prevent accidents. To satisfy these duties, Suffolk County Council has access to Police collision records to monitor the road safety trends on the network and determine appropriate intervention. This same data has been utilised to develop the scope of the Friday Street measures and will subsequently be used to monitor future trends.
27	30. The above measures would appear to be a meaningful attempt by the Applicant to reduce the likelihood of accidents at this junction. Should this approach be deemed adequate mitigation, then a mechanism should be incorporated to monitor all accidents at the junction on a regular basis. Additionally, a contingency fund should be set aside for further safety measures should accidents increase a direct result of the project -centred traffic growth. The Outline	

ID	Written Representation	Applicants' Comments
	Construction Traffic Travel Plan (APP-566), which outlines management measures to mitigate transport impacts, should be updated to reflect commitment to further improvement should they prove necessary.	
28	31. EN-1 5.13 states…*"If additional transport infrastructure is proposed, Applicants should discuss with network providers the possibility of co-funding etc*"……	
29	32. In line with current UK commitments regarding climate change and reduced motor vehicle pollution, the Applicant should have included within the EIA, descriptions of: • How it intends to mitigate the increased level of noxious gases and particulates that will arise as a consequence of the increased traffic flow and increased transit delays at the A12 - A1094 junction (Friday Street). • How it intends mitigate the effect of increased greenhouse gas emissions associated delays at this junction. "An evaluation of the impact of the Dublin Port tunnel and HGV Management Strategy" Ref 5	Please refer to the ***OCTMP section 2.2.9*** (APP-586) in relation to the use of Euro VI HGVs during construction which will minimise the effects of development-generated traffic insofar as possible. Measures are developed to ensure that delays at the A12/A1094 junction are not significant. Furthermore, there are no sensitive receptors in the immediate vicinity of the A12/A1094 junction which would be affected by changes in traffic flows.
30	33. Clearly SCC, having responsibility for highways, identifies the A12/B1094 junction as a dangerous junction and that many minor changes having been made over the years to reduce accidents. The Applicant should explain why it considers that the application of rumble strips and signage would be sufficient mitigation to improve the situation and be adequate to cater for the increase in the number of vehicles, particularly HGVs, using this junction. If reducing speed limit on the southbound dual carriageway and adding rumble strips and/or	Please refer to the Applicants' response to in ID 18.

ID	Written Representation	Applicants' Comments
	more signage would reduce collisions, then these changes would have been installed already.	
31	34. The Applicant highlights the A1094 as a "key link from A12 in the West to the town of Aldeburgh in the East" Ref 6 The Applicant also states the A1094 to be a "rural road". As such the Applicant needs to justify: • Why several years of added pollution and traffic delay at the junction with A12 and A1094 (Friday Street) should now be considered acceptable. • Why it considers A1094 it as low magnitude in terms of safety and delay. • Why it considers mitigation measures in the form of minor road realignment can improve the established fact the road is and will remain narrow and winding, and already servicing a high volume of tourist and local traffic. (Local experience confirms that repairing a single pothole can cause significant tailback of traffic on this road)	In response to each of the points the Applicants offer the following clarifications: • ***Chapter 19 Air Quality*** (APP-067) includes an assessment of the impacts traffic emissions. The air quality assessment presented in the ES found that the impact of the construction of the Project would be not significant at all receptors. • With regard to the A1094 and low magnitude for safety and delay, please refer to the Applicants' responses to in ID's 06 and 07 of this table. • For route suitability please refer to the Applicants' response in ID 05 of this table.
32	35. The Applicant should show: • Why mitigation measures such as such as road realignments will not lead to 'rat runs', as local users seek to avoid delays so caused. • How it intends to prevent delays in the existing efficient delivery of goods and services, access by emergency vehicles including health care provision, and prevent loss of visitor enjoyment. • How it will address the needs of pedestrians and cyclists for whom the close passage of large numbers of HGVs is a daunting prospect.	In response to each of the points the Applicants offer the following clarifications: Engagement with Highways England and the Councils during the development of the application identified areas that were susceptible to congestion and therefore particularly sensitive to changes in traffic flow. These areas could cause traffic to reassign on the network if significant adverse driver delays are forecast. Accordingly, these areas were subject to detailed capacity assessment as presented in ***sections 26.6.1.11*** and ***26.7.2.1.1.3*** of ***Chapter 26 Traffic and Transport*** (APP-074) and ***26.1.3.6 of Appendix 26.2***. Following mitigation, no residual significant adverse Driver Delay impacts are

ID	Written Representation	Applicants' Comments
	• How it will create safe and secure layouts that will minimise conflicts between traffic and cyclists or pedestrians whilst avoiding street clutter.	forecast as a result of the Projects' traffic demand (and therefore network reassignment is unlikely). The ***Outline CTMP*** (REP3-032) and the ***Outline Travel Plan*** (REP3-036) submitted at Deadline 3 presents the requirements and standards that will be incorporated into the final CTMP to manage the Projects' construction traffic to ensure there is no significant adverse impact on all road users. The ***Outline Access Management Plan (OAMP)*** (REP3-034) reinforces commitments made in the ES and presents the requirements and standards that will be incorporated into the final access designs to ensure safe interface with highway users. ***Sections 26.6.1.8 and 26.7.2.1.1.1*** of ***Chapter 26 Traffic and Transport*** (APP-074) and ***section 26.1.3.3 of Appendix 26.2***, details the amenity impact assessments and outlines mitigation concepts.
A1094/B1069/Unnamed Road - Snape Crossroads		
33	36. Table 26.14 Chapter 26 Traffic and Transport (APP-074) lists five junctions that currently are classified as accident clusters. Of the five junctions, only two are considered by the Applicant to have an "emerging pattern", and three have been excluded for further assessment because "no clear pattern can be found between each accident". The excluded junctions are: • A1094.B1069 (Cluster 3) • A1094/B1069/Un-named road Junction (Cluster 4) • A12/B1122 Junction (Cluster 5)	The approach to assessing the potential impacts upon road safety was determined with the Councils and Highways England during pre-application engagement. The approach involves detailed consideration of accident clusters (technically referred to as collision clusters) and collision rates utilising Police (Stats 19) records to determine user groups (including cyclists and HGVs) and causation factors. This is detailed within ***section 26.5.4*** of ***Chapter 26 Traffic and Transport*** (APP-074).

ID	Written Representation	Applicants' Comments
34	37. The fact that these junctions are identified as clusters, with several accidents occurring at each over the past 5 years, should warrant further consideration by the Applicant. The fact no pattern can be found between the accidents is beside the point, these are accident clusters through which the Applicant SPR is proposing an increase of traffic, therefore mitigation should be considered to ensure as far as practicable accidents do not increase as a result of its traffic. Furthermore, there is no linkage between each accident at each cluster listed above as several have the same causation factors.	***Chapter 26 Traffic and Transport*** identifies areas sensitive to changes in traffic flows that require a detailed road safety assessment. These are defined as follows: • areas where there are concentrations of collisions with similar patterns; or • roads with collision rates that are higher than national averages. Conversely, where collision rates are less than national averages or there are no concentrations of collisions the roads not assessed further. ***Chapter 26 Traffic and Transport*** includes detailed review of the existing collisions occurring at the five identified collision cluster sites. A pattern of collisions was validated at cluster sites 1 and 3 and therefore the impact of the projects traffic upon these sites is assessed further. The remaining three cluster sites, 2, 4 and 5 do not demonstrate an emerging pattern of collision types, and therefore these junctions are not assessed further. It is typical to have common causation factors at junctions throughout the UK (e.g. rear end shunts), the 'cluster' approach determines if the causation factors are statistically significant and therefore can be targeted by mitigation.
35	38. Snape Crossroads is an important local junction providing access to Snape Village which in addition to residential property, includes a primary school, the Snape Maltings Concert Hall and Retail Outlet, being the shortest direct route from the A12. It should be noted that the Snape Maltings is a world renowned concert hall seating approximately 800 patrons all of whom arrive by vehicle. On the same site is a shopping complex with frequent events. The site also provides	Please refer to the Applicants' response to in ID 06.

ID	Written Representation	Applicants' Comments
	holiday accommodation. **Ref 7**. There is increasing use of this road as an alternative to the already busy A12. Accordingly the Snape Crossroads suffers from significant congestion	
36	39. The Applicant should identify what mitigation measures will be provided to eliminate the likely adverse impact of increased vehicular flow on the A1094 on the social, cultural and commercial activities of this important venue. The Applicant should explain why it considers that an increase of HGV/LCV/LGV traffic will have a minimal impact on the accessibility to and from this venue. **Ref 8**	
A1094 to B1121 & B1069 junctions		
37	40. This section of road is single carriageway, subject to a 60 mph speed limit (widely ignored) with hidden dips, culminating in a blind corner. It is much used by farm traffic and extensively used by cyclists as it forms part of the Sandlings way and part of a designated national cycle path. There is no refuge in the form of pavements or laybys.	As set out in ***ES Appendix 26.1*** (REP-527) the HGV routes have been informed by extensive consultation with the Councils and subject to a number amendments as a result of those discussions prior to finalising. As part of this process, the ***OCTMP paragraph 31*** (APP-586) confirms the introduction of a temporary haul road ensures that HGVs are routed away from sensitive communities including Friston and Sternfield. The Applicants refer to their ***Responses to Examining Authority's Written Questions*** (REP1-121) Question 1.18.15 provides clarification with regards to measures to proposed to ensure HGVs use the agreed routes.
38	41. There would appear to be no scope for mitigation methods, other than the Applicant providing procedural measures that will prevent the single track lane known as Mill Road being used as a shortcut to Friston by LGVs engage in substation construction: signage currently indicates its unsuitability for HGVs.	
SECTION 2 - IMPACT OF CONSTRUCTION TRAFFIC IN AN AROUND FRISTON **Designation of Vehicle Types**		

ID	Written Representation	Applicants' Comments
39	42. The DVLA makes clear that all Goods Vehicles are either Light Goods Vehicles (LGVs) or Heavy Goods Vehicles (HGVs). LGVs are identified as having no more than 2 axles, no rear side windows, and having a maximum gross weight of 3.5 tonnes. Ref 10. All other lorry type vehicles are categorised as HGVs, having between 2 and 6 axles, and have a maximum gross weight between 3.5 and 44 tonnes. It is acknowledged that AILs are a special case and will fall outside this restriction. **Ref 9**	***Chapter 26 Traffic and Transport,*** (APP-074) defines the term HGV as any vehicle having a gross weight of over 3.5 tonnes and for simplicity uses the collective term Light Commercial Vehicles (LCVs) for vehicle below 3.5 tonne (gross weight). This defines a range of movements for employee travel by vehicle types such as cars, motorcycles, vans and minibuses and includes those vehicles that meet the DVLA LGVs classification. The ***Outline CTMP*** (REP3-032) confirms the scope of the document is confined to managing HGV movements. At Deadline 3 the ***Outline Travel Plan*** (REP3-036) was amended to clarify the scope of the document is confined to LCVs (simplified to light vehicles) to provide clarity with ***Chapter 26 Traffic and Transport***.
40	43. The Applicant has produced an Outline Construction Traffic Management Plan (OCTMP) [APP-586] but this fails to make clear what constitutes 'Construction Traffic', in particular what constitutes construction HGV traffic and what is other construction traffic. Chapter 26 Traffic and Transport introduces the term LCV (see frontispieces Page 5, Page 9, Page53), but provides no clear definition of where this vehicle type sits in the DVLA categorisation. **Ref 10 and Ref 11**	
41	44. In all discussions with the Applicant, local residents have been assured that no HGV traffic will be allowed to traverse that section of the B1121 between the A12/B1121 junction at Benhall and the B1121/A1094 junction at Blackheath Corner. Discounting AILs, no such assurance has been given regarding all other forms of vehicular transport. Ref 12	***Table 26.23*** of ***Chapter 26 Traffic and Transport*** and ***Table A26.3*** of ***Appendix 26.2*** (APP-528) provides details of the numbers of construction traffic movements forecast to pass along links 5 and 7 (through Friston) for the sequential and simultaneous construction of the Projects respectively. It can be noted that during the construction phase, links 5 and 7 would not have any construction HGVs and (with regard to other construction traffic) would attract a worst case increase in total daily traffic flows of up to 5% for the sequential construction of the Projects and 6% simultaneous construction of the Projects. At these low traffic levels a prohibition is not considered a proportional measure.

ID	Written Representation	Applicants' Comments
42	45. At this point the Applicant has not yet shown any charts relating to the movement of LGV traffic (up to 3.5 tonnes). Ref 13	Please refer to the Applicants responses in ID's 39,40.
43	46. Tables 26.20/26/21 Traffic and Transport Ch 26 (APP-74) show the traffic movement for LCV and HGV only. There are no similar charts to indicate the number of Light Goods Vehicles, of which there will be many, associated with the development of this size.	***Table 26.23*** of ***Chapter 26 Traffic and Transport*** and ***Table A26.3*** of ***Appendix 26.2*** (APP-528) provides details of the numbers of construction traffic movements, with LGVs included within the general classification of LCVs.
Ancillary Traffic routes		
44	47. In its limited appraisal of traffic in the area surrounding Friston, it appears that the Applicant fails to acknowledge that the village is bisected by the B1121. The Village Green, Children's play area, Village Hall, Church, allotments and Bowling Green are on the northern side, and the majority of the housing stock, Public House, Vehicle Repair garage and Baptist Chapel on the southern side. Any increase in road traffic on the B1121 as a consequence of substation build will have an adverse effect on village life. All other roads entering the village are essentially single track (e.g. lanes) with occasional passing places. These lanes are used by cyclists, horse riders and farm vehicles and with few passing places, vulnerable to congestion. To enable objective assessment of the level of disruption caused by construction traffic in and around Friston, the Applicant must identify what types of vehicle and likely numbers may be expected on the B1121, on links 5 & 7, Grove Road, Mill Road, Church Road and Church Lane.	The extent of the onshore highway study area has been agreed with the Councils and Highways England through the pre-application engagement process based on the routes that construction traffic would assign to. Routes that extend outside of the onshore highway study area are routes where construction traffic has dissipated and / or include roads with negligible sensitive receptors. When combined these parameters do not represent significant impacts on the highway network. Only links 5 and 7 met the criteria for further assessment. Detail of the assessment of impacts upon these links is provided in the Applicants response in ID 08 of this table.
45	48. The Applicant has made much of how it intends to monitor and route HGVs, but has failed to describe how this process will be extended to all other types of vehicles associated with a construction programme. Of particular concern is the number and natures of	***Section 3.2.2*** of the ***Outline AMP*** (REP3-034) confirms the extent of the onshore preparation works which includes the Grove Road pre-

ID	Written Representation	Applicants' Comments
	vehicles requiring access to the Pre-Construction Road (see following section) off Grove Road in Friston and at Access Point 13 (substation permanent access road on B 1121). This road has also been referred to by the Applicant as an operational access road presumedly to distinguish it from being a construction access road.	construction activities. This sets out the delivery routes, the traffic management measures and protocols that apply. ***Paragraph 213*** of ***Chapter 26 Traffic and Transport*** states that access 13 will be used (once available) by construction personnel associated with the National Grid infrastructure only.
46	49. The Applicant has indicated that a car share ratio of 1.5 workers/car has been assumed. It is not clear how this figure was arrived at or how it will be monitored, enforced or reported. A particular concern for residents in Friston and the immediate area, is the possibility of "Fly Parking", where access to fields and passing places on narrow lanes is blocked by site workers.	The Applicants refer to their response provided in ***Applicants' Responses to Examining Authority's Written Questions*** (REP1-121) Q1.18.41 which provides clarification regarding the rationale for the employee to vehicle ratio of 1.5 and how this ratio will be monitored, enforced and reported. This ratio was agreed with the Councils following extensive consultation (***ES Appendix 26.1*** (REP-527) refers) and has a basis in the consented East Anglia THREE Outline Travel Plan. ***Table 2.2*** of the ***Outline Travel Plan*** (APP-588) includes details of measures to control parking.
47	50. The Applicant has stated that evening and weekend working may be required to maintain programme progress and for specific time critical activities. With the exception of Horizontal Drilling, no engineering tasks appear to need 24 hour working. Strict limits must therefore be imposed on the Applicant to prevent abuse of such an easement to the length of the working day just to "maintain programme progress", which is a wholly commercial matter. As mitigation, abuse of the easement should therefore attract a significant financial penalty or withdrawal of weekend working permits. In respect of working hours see written representation in relation to construction.	The exceptions to the construction hours for transmission works are specified in Requirement 23(2) of the ***draft DCO*** Otherwise construction activities will occur within the working hours As set out in Requirement 23(1) of the ***draft DCO*** (REP3-011)***,*** onshore construction activities would normally be conducted during working hours of 7am to 7pm Monday to Friday and 7am to 1pm on Saturdays, with no construction works on Sundays or bank holidays. Requirement 23(2) of the ***draft DCO*** sets out construction works which may occur outside the above times in relation to essential

ID	Written Representation	Applicants' Comments
		activities such as drilling during the operation of a trenchless technique and concrete pouring. However, the timing and duration of such works must be approved by the relevant planning authority in advance, as specified within the ***draft DCO***. The relevant planning authority will be advised of the likely timetable of works. This timetable will also be shared with affected communities through the local community liaison officer.
48	51. Within Traffic and Transport, Chapter 26 (vide Tables 26.20 & 26.21), (APP-074) the Applicant has set out projected numbers of Construction Traffic vehicles to be associated over a 36 month period of construction. For further clarification of these figures, the reader is directed to appendices 26.14/26.23/26.15 [APP-540, APP-541 & APP549]. The format of these figures has proven difficult to follow and to develop a clear understanding of the situation.	In response to each of the points the Applicants offer the following clarifications: • Bullet points 1 to 4; please refer to the Applicants' responses in ID's 09, 10, 11, and 12 of this table. • Bullet points 5 to 6; please refer to the Applicants' responses in ID's 39 and 40 of this table. • Bullet point 7; please refer to the Applicants' response in ID 05 of this table. • Bullet point 8 to 10: ***Section 26.5.3*** of ***Chapter 26 Traffic and Transport*** (APP-074) contains a detailed assessment of the baseline highway environment to determine the sensitivity of discrete highway links. This includes highway separation, footpaths, frontage development and community facilities. The link sensitivity is the critical metric when evaluating the magnitude of effect of construction traffic to determine impact significance.
49	52. The Applicant could improve matters by: • Explaining why the matrices used in Chapter 26 are in different format to those use in the appendices? • Explaining why values are different in tables making it impossible to cross check numbers between the main document Chapter 26 and Appendices. • Explaining why it appears that some 20 months are omitted from the Traffic Tables 26.20/26/21 • Explaining why there is no uniformity within the document regarding intervals i.e. days, weeks or months nor consistent format of tables.	

ID	Written Representation	Applicants' Comments
	• Setting down clearly the number of vehicles, their type e.g. HGV, LGV (and any other designation adopted such as LCV) and their designated routes. • Explaining why LGV numbers are not included in any calculation of traffic numbers? • Presenting some assessment of the difficulty that may be encountered by construction vehicle of all categories endeavouring to pass on the roads surrounding Friston. For example, the A1094, the B1121, Grove Road, Church Road, Church Lane and Mill Road are all known by local residents to be very narrow in places and frequently present difficulties in passing and resulting in vehicle damage. • Acknowledging that one of greatest concern to residents of Friston is the use of lanes which cross the B 1121. These have no pedestrian footpaths, no passing places and have poorly defined driveways which exit straight on to the roadways. • Acknowledging that in many cases homes and house exterior walls are in many cases immediately adjacent to the roadway. • Acknowledging that public footpaths and children's play areas border these lanes.	
50	53. With the possible exception of the junction of the B1069 and A1094 at Snape, which is already viewed as an accident cluster, it remains a serious concern to the residents of Friston that the Applicant does not consider that the development will adversely impact road safety in the vicinity of Friston.	The approach to assessing the potential impacts upon road safety was determined with the Councils and Highways England during pre-application engagement. The approach involves detailed consideration of collision clusters and collision rates utilising data collected by the Police on collisions (known as Stats 19 data) to determine user groups (including cyclists and HGVs) and causation factors. This is detailed within ***section 26.5.4*** of ***Chapter 26 Traffic and Transport*** (APP-074).

ID	Written Representation	Applicants' Comments
		Table 26.24 of ***Chapter 26 Traffic and Transport*** notes that whilst the collision rate along the B1122 is above the national average that a peak change in total traffic of 5% for the sequential construction of the Projects represents a negligible magnitude of effect on a potentially high sensitive receptor. The impact is therefore assessed as minor adverse and no route specific mitigation is proposed. ***Paragraph 88*** of ***Appendix 26.2*** (APP-528) notes road safety impacts are similar for the concurrent construction of the Projects (scenario 1). ***Section 2.2.6*** of the ***Outline CTMP*** submitted at Deadline 3 (REP3-032) sets out general road safety provisions for the Projects.
SECTION 3 - THE PRE-CONSTRUCTION ROAD AT FRISTON		
51	54. The Applicant has from the outset produced Works Plans using a red line to show the outline of their Proposed Onshore Development Area. (June 2018), that is, a generalised outline of the land they wish to use as set out in subsequent plans. Appendix 26.18 Environmental Statement Vol 3 Drawing TP-PB4842-DR014 Vol 3 [APP-543] see Ref 14	The Applicants have not used the term 'Pre-Construction Road', As set out in paragraph 334 of ***Chapter 4 – Project Description*** of the ES (APP-052) 'Accesses for all onshore preparation works are identified in Figure 6.6 (a-j) (APP-101) as 'Onshore Preparation Works Access'. No new physical works will be required at these access locations, and any onshore preparation works traffic will use the existing condition of the accesses and ensure that accesses are reinstated to pre-use condition. The Applicants are not seeking rights under the DCOs to use any Pre-Construction Access for construction activities. Onshore preparation work activities may include the following: • Site clearance; • demolition work; • pre–planting of landscaping works;
52	55. Shown on the map is the area where a Pre-Construction Road is planned but the detail of the road cannot be discerned as the image has been overlain over by an example of a 'Road Works' sign, making it impossible to see clearly the extent of the intended construction. Works Plans Sheet 6 and 7 [APP-001] & [APP-002] see Ref 15.	
53	56. The Works Plans of 12/09/19 gave the first indication that the "generalised redline" used in previous plans would become a Pre-Construction Access, when previously the red line merely indicated "Area of Works ". It is emphasised: the Applicant gave no indication	

ID	Written Representation	Applicants' Comments
	the thin red line would become a road! What has now become apparent is that despite assurances by the Applicant to the contrary, and it was never given at all PIDs, there was to be a major access to the onshore development in the village of Friston. This access to the Pre-Construction now will be adjacent to the haul road crossing Point 11& 12 on Grove Road Friston and will enable vehicles to leave the haul road and enter Friston	• archaeological investigations; • environmental surveys; • ecological mitigation; • investigations for the purpose of assessing ground conditions; • remedial work in respect of any contamination or other adverse ground conditions; • diversion and laying of services; • erection of temporary means of enclosure; • creation of site accesses; • footpath creation; • erection of welfare facilities; and • the temporary display of site notices or advertisements. Typically, the majority of these activities will be able to be undertaken using light commercial vehicles (such as a panel/transit van). ***Table 26.22*** of ***Chapter 26 Traffic and Transpor***t (APP-074) details that access to the onshore cable route section 4, the onshore substation and National Grid Substation and Infrastructure would be provided from the access 10 on the B1069, necessitating vehicles to 'cross over' Grove Road at crossing points 11 and 12. ***The Outline Access Management Plan*** (REP3-034) details that the crossings would only permit construction traffic to cross from one side of the
54	57. The Applicant must explain: • What is the purpose of the Pre-Construction Road? • What type of vehicles will access this road and how many? • When will this Pre-Construction Road will commence to operate? • How long will it be in operation? • What route will vehicles take to access the road? • Why it avoids showing on all maps just how close to Friston village is this new access to the haul road • Why this Pre Construction Access road was not included in all earlier consultations?	
55	58. Access to this Pre-Construction Road, can only be achieved via Grove Road or via a single track lane (Church Lane/Church Road) adjacent to the Grade II* Parish Church. Vehicles would need to enter Friston by either B 1121 North and South [designated Links 5 or 7] or via Mill Road, which is a single track lane leading to the A1094. Links 5b and 7 have been identified by the Applicant as high risk.	

ID	Written Representation	Applicants' Comments
56	59. It is emphasised that Grove Road is a narrow winding rural road within the village of Friston. • It has limited passing facilities • Blind bends • It has no pedestrian footpath • Many properties access directly on the road. • It is part of the National Cycle Network and Sandlings Walk • The children's playground and Village Green border Grove Road and have no safety barriers Photographic evidence to support the above is available.	existing public highway to the other. No construction access or egress would be permitted from the crossing points from/onto Grove Road. With regards to LCV demand, this would comprise of construction employees travelling to and from Projects. The distribution of employee traffic has been informed by socio economics data to determine employee origins. With the exception of National Grid construction employees travelling to access 13, the socio economics data indicates that the majority of employees would not need to route through Friston. However, there could conceivably be employees based in the local area that would have a valid reason to travel through the village.
57	60. While SPR have stated there will be no construction HGV traffic through Friston it has not made the same statement regarding LCV or LGV. It is thus highly unsatisfactory that the plan for this Pre-Construction road has only become visible with the submission of the DCO. It thus appears that it has been the Applicant's intention to make the relevant information available when the opportunity to mount a challenge has been significantly reduced.	
58	61. **Severance** Regarding severance of the village, the Applicant quotes in Chapter 26 Environmental Statement page 21 26.4.3.1.1 Para 67 [APP-074] **Ref: 16** the following: *Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the*	Please refer to the Applicants' response in ID 08.

ID	Written Representation	Applicants' Comments
	road itself. It can also relate to relatively minor traffic flows if they impede pedestrian access to essential facilities. Severance effects could equally be applied to residents, motorists, cyclists or pedestrians. It is considered that the volume of vehicles needed to support the construction of 3 large electrical substations in close proximity to a small rural village could result in severance.	
59	62. Paragraph 128 of Chapter 26.[APP-074] It is evident from Table 26.13 that the B1121 (links 5 and 7) has a collision rate that is higher than the national average for a comparable road type and may be particularly sensitive to changes in traffic flow / type. In addition, the A1094 (links 6 and 8) has a collision rate that is just below the national average.	
60	63. Paragraph 129 of Chapter 26. These links (links 5, 6, 7 and 8) are considered potentially sensitive to changes in traffic flow and are therefore assessed further in section 26.6.1.10. The remaining links have collision rates below the national average and are therefore not considered further.	
61	64. Taking the above into account, SPR should be required to show that the traffic increase associated with Pre-Construction Road access on Grove Road and the movement of employees directed to use Access 13 will not lead to 'Severance' which will result in damage to the community of Friston.	
SECTION 4 - ACCESS POINT 13		
62	65. The Applicant has stated the intention to construct a Permanent Operational Access Road (POAR) between the substations and the	The permanent operational access road (POAR) would be **up to** 7.0m in width (emphasis added) and must be available for the life of

ID	Written Representation	Applicants' Comments
	B1121 north of Friston. This point is designated by the Applicant as "Access 13 Permanent Operational Access Road (POAR)". The approximate map reference is TM40160 61160 referred to in the Non - Technical Summary (NTS) **Ref 17 [APP- 572]**	the authorised project. This is a reduction from up to 8m as explained within the Applicants' response to ExA Written Question 1.10.21 (REP1-115).This width represents the maximum design envelope for the road. The final width will be established during the detailed design stage.
63	66. The Applicant must clarify the use of the Permanent Operational Road at Access Point 13.The Applicant has indicated that this access, Access Point 13, will be used for the delivery to site of a maximum of 4 Abnormal Indivisible Loads (AILs)which will require temporary local widening of the B1121 to permit entrance. Given that Access Point 13 POAR will be required to meet a certain standard to accommodate the single one way delivery of the AILs. • There is no evidence put forward by the Applicant that the POAR needs to be 8 metres in width to accommodate the passage of an AIL typically carrying an HVAC transformer, generally moved on a 14 axle transporter. • Why is the POAR of such a high specification of construction?	
64	67. In addition the AIL Survey Document (Ref18), carried out by Wynns for The Applicant, states: "*The load carrying capability of roads depends to a great extent on axle loading rather than total weight of the load being transported. The load carrying capability of the route has to be assessed in relation to the loadings that would be imposed by the total gross weight of the load plus transporter for each item to be transported. …….The tractor unit is normally considered as a separate unit in terms of imposed axle and wheel loading*." **Road Crust**	

ID	Written Representation	Applicants' Comments
	"*Road crust strength is important , but with the spread of load obtained with multi-wheeled transporters, it is not normally a problem, providing the road is maintained to a reasonable standard*. ……. " The Applicant must explain why the level of construction of the proposed POAR at Access 13 is of a higher standard than is required for the delivery of the AIL.	
65	Regards use of the Access 13 POAR during construction Ref 19 Table 26.22 "*Vehicles to travel from the A12 via 1094 before heading north to access 10 on the B1069, vehicles would then travel via the haul road and cross over Grove Road at access 11 and 12*" The Applicant must confirm all traffic throughout construction associated with the NG works will access via access 10 and not via access 13 because paragraph 213 conflicts with the statement in Table 26.22 above. Para 213 – "*The proposed access strategy (set out in Table 26.22) is promoted for all employees with the exception of the National Grid employees. These employees would instead access from access 13, the B 1121 link 5 (to the North of Friston) once this access is available"*	***Section 26.6.1.6*** of ***Chapter 26 Traffic and Transport*** (APP-074) provides details of the accesses that will be used by all employees and confirms that only National Grid construction employees would use access 13 once available.
66	69. The Applicant has stated that no HGVs will enter or egress the construction site via B1121 through Friston. The Applicant and National Grid must confirm they do not intend to use the POAR at Access 13 for vehicle access during the construction of EA1(N), EA2 and NG substations plus later NGV interconnectors. Heavy Goods	Please refer to the Applicants' response in ID 08 for further clarity regarding the use of access 13. Please refer to the Applicants' response in ID 78 of this table regarding National Grid Ventures.

ID	Written Representation	Applicants' Comments
	Vehicles (HGVs) over 7.5tonnes, 2 axle lorries over 3.5 tonnes but below 7.5 tonnes, Light Goods Vehicles (LGVs) up to 3.5 tonnes.	
Relationship to link roads		
67	70. The only route to Access Point 13 is either northwards from the A1094 through Friston village (Link 7) along B1121, (identified by the Applicant as Highly Sensitive with an accident profile higher than the National Average for a road of this standard) or southwards from the A12 to Friston (link 5) via the B1121 through the small village of Sternfield, identified by the Applicant as unsuitable for construction traffic.	Please refer to the Applicants' previous response in ID 63 of this table. ***ES Appendix 26.3 - Abnormal Indivisible Load Access to the Proposed East Anglia TWO and Proposed East Anglia ONE North Offshore Windfarm Substation*** (APP-529) confirms that AILs are assisted by the utilisation of police escort to negotiate the narrower sections of the highway network. The POAR design will be optimised to ensure that AIL movements can occur safely within the substation site without the need for escort or other special controls.
68	71. The AILs will have travelled to Friston via A1094 and B1121, which in places are no more than 5 metres in width, but the Applicant has not explained why the POAR at Access 13 needs to have width 8 metres, which is greater than that of the immediate public highway. The B1121 as measured at this point is currently 5.1metres.	
69	72. Examination of the Highways Agency map showing existence of approved laybys for AILs on the route from A14 at Bucklesham to Friday Street junction with the B1094 via the A12, shows none have a width much in excess of 4 metres.	Abnormal Indivisible Load (AIL) movements would be subject to a separate and well established process used nationally, known as the Electronic Service Delivery for Abnormal Loads (ESDAL). The ESDAL process would ensure that if vehicles are required to 'layover' on route, appropriate locations are selected and that where vehicles may be unable to pass, a police escort is provided.
70	73. The B1121 (links 6 and 5) is a two lane B-road, which lacks central white lines to demarcate the lanes in many places. The road has high hedges and blind corners and overgrown verges. Many of the larger LGVs have a width of ~2.5 metres excluding mirrors, making passing on sections of the B1121 difficult, resulting in damage to the verges.	

ID	Written Representation	Applicants' Comments
71	74. The Applicant must therefore indicate how the proposed mitigation measures of additional speed restrictions or increased signage will benefit the passage of traffic.	The Applicants submitted a ***Traffic and Transport Clarification Note*** (REP3-055) at Deadline 3 which sets out the rationale for the proposed temporary speed restrictions.
72	75. The Applicant states after completion of the development the POAR at Access Point 13 will be used only for occasional maintenance required at the substation complex site. This statement poses a number of questions: • What will be the frequency of use? • Can the Applicant confirm this road will be used only for delivery of Abnormal Indivisible Loads (AIL's)? • Can the Applicant confirm this road will only be used in the future for occasional Substation maintenance? • Can the Applicant confirm this road will not be used by employees or for any construction traffic purposes relating to National Grid, National Grid Ventures, the Applicant's developments (EA1(N) and EA2, or any future projects - see cumulative impact below? • Can the Applicant state why this POAR should not be reduced in dimensions after delivery of the AILs? • Who will own the road and control its use after completion of the project? • Can the Applicant confirm any successor owner will be put under an obligation not to use the road for HGV traffic?	Please refer to the Applicants' response in ID 08 for further clarity regarding the use of access 13 (the POAR). Please refer to the Applicants' responses in ID's 62, 63 and 64 of this table for further clarity regarding the size of the POAR. Please refer to the Applicants' response in ID 78 of this table regarding National Grid Ventures. Longer term ownership of the operation access road is yet to be established and is not a material consideration in the Applications. The requirements and obligations within the DCOs associated with the authorised projects' operational access road will apply irrespective of ownership.
IN CONCLUSION		
73	76. A development of such enormous proportions will generate large amounts of traffic to:	***Requirement 28*** of the ***draft DCO*** (REP3-011) provides that a final detailed Construction Traffic Management Plan and Travel Plan

ID	Written Representation	Applicants' Comments
	• prepare • build • maintain	must be produced, prior to the commencement of onshore construction of the Projects, and will be in accordance with measures set out in the ***Outline CTMP*** (REP3-032) and ***Outline Travel Plan*** (REP3-036) and must be approved by the relevant highway authority.
74	77. In the large volumes of information of Traffic and Transport there are many charts, tables, numbers, yet no detailed Traffic Plan will be available until after the approval pf the development. Any mitigation measures put forward cannot be relied upon, and must surely be merely suggestions subject to change.	
75	78. To interpret the charts or tables it is nigh on impossible to unravel the data • the charts are so scattered within the documents • the charts are so small they become unreadable in any attempt to access • the figures form one chart to another chart become impossible to correlate or understand.	The Applicants would welcome specific examples in order to comment more fully. The Applicants consider the Applications to be comprehensive and clearly presented. Please refer to the Applicants' responses in ID's 9, 10, 11 and 12 of this table.
76	79. Why, in submitting plans for such a significant development, the Applicant has not addressed: • the severity of impact on the residents of Friston village? • the disturbance such a development will create preventing the residents engaging in normal activities, such as walking safely in the village? • the potential disturbance to the daily lives of villagers in a manner which cannot be mitigated nor appears to have been addressed, save the banning of HGV's through the village?	Please refer to the Applicants' response in ID 08 of this table. During the development of the delivery routes the Applicant has fully considered the impact of HGV traffic on the community of Friston and has developed an access strategy that maximises the use of a temporary haul road to ensure that HGVs are routed away from the B1121. This commitment is secured in the ***OCTMP paragraph 31*** (APP-586). ***Table 26.23*** of ***Chapter 26 Traffic and Transport*** and ***Table A26.3*** of ***Appendix 26.2*** (APP-528) provides details of the numbers of

ID	Written Representation	Applicants' Comments
		construction traffic movements forecast pass along links 5 and 7 (B1121 through Friston) for the sequential and simultaneous construction of the Projects respectively. It can be noted that during the construction phase, links 5 and 7 would not have any construction HGVs and (with regard to other construction traffic) would attract a worst case increase in total daily traffic flows of up to 5% for the sequential construction of the Projects and 6% simultaneous construction of the Projects. This level of traffic demand has been assessed negligible and therefore is not forecast to lead to significant impacts on the Friston community.
CUMULATIVE EFFECT		
77	80. Little information has been given about the impact of traffic associated with the future developments planned for this area and that assessed only in relation to the proposed Sizewell C development. 81. There has been no cumulative impact assessment in relation to the six other major offshore energy projects either which will or may well connect at the National Grid connection hub and which will involve substantial additional infrastructure being built in the area – see Written Representation in relation to Cumulative Impact and Written Representation in respect of Land Use.	***Section 26.5.7*** of ***Chapter 26 Traffic and Transport*** (APP-074) outlines the approach taken to forecasting future traffic growth and account for sub-regional growth in housing and employment. The approach utilises growth factors (provided by SCC consultants) that are applied to observed baseline traffic to forecast future year baseline traffic flows. The growth factors have been derived from the Suffolk Coastal Development Plan process taking into account the forecasts for committed and emerging development trajectories. In addition, ***Section 26.7.2*** of ***Chapter 26 Traffic and Transport*** (APP-074) considers the potential for other projects that would fall outside of the Suffolk Coastal Development Plan (such as the Sizewell C New Nuclear Power Station and Suffolk's Energy Gateway) and where there is the potential for a temporal or spatial overlap and cumulative trafiic impact.

ID	Written Representation	Applicants' Comments
		It should be noted that the National Grid infrastructure is designed to meet the needs of the authorised projects only. The approach used for the CIA follows Planning Inspectorate Advice Note 17. Where it is helpful to do so 'Tiers' of these projects' development statuses have been defined as well as the availability of information to be used within the CIA. This approach is based on the three tier system proposed in Planning Inspectorate Advice Note 17 as summarised in the following: • Tier 1 – Projects under construction, permitted or submitted applications; • Tier 2 – Projects on the Planning Inspectorate's Programme of Projects where a scoping report has been submitted; and • Tier 3 – Projects on the Planning Inspectorate's Programme of Projects where a scoping report has not been submitted; projects identified in the relevant Development Plan (and emerging Development Plans); and projects identified in other plans and programmes (as appropriate) which set out the framework for future development consent. Tier 1 and Tier 2 projects are included in all relevant CIAs within the ES. Generally, Tier 3 projects have not been included within each CIA due to insufficient information available on which to base an assessment, in line with Advice Note 17. Following the guidance in Advice Note 17, the below projects were not considered in the CIA because at the time the Project CIAs were written there was inadequate detail upon which to base any meaningful assessment (with no information on, for example, the project design, and timescales): • Nautilus;

ID	Written Representation	Applicants' Comments
		• EuroLink; • Greater Gabbard Offshore Windfarm Extension (North Falls); and • Galloper Offshore Windfarm Extension (Five Estuaries) Each of these projects is nationally significant and therefore will require its own EIA and as part of that process will need to undertake a cumulative assessment. Each of the above projects will therefore consider the Project in each of their respective EIAs as they progress through the planning process. The Applicants note that there are no substantive updates on the progress of North Falls or Five Estuaries since the Applications were submitted. North Falls or Five Estuaries are part of the 2017 Extension leasing round. The Applicants note that all the 2017 Extensions featured in The Crown Estate plan level HRA published in August 2019 and that Sheringham Shoal and Dudgeon Extension received a Scoping Opinion in November 2019 and are expected to proceed to section 42 consultation in April 2021 and Rampion Extension received a Scoping Opinion in August this year. The latest information[3] from the North Falls is that scoping expected early in 2021, with a DCO application is not expected until mid-2023. Five Estuaries have not provided an indicative programme to the Planning Inspectorate at this stage[4].

[3] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010119/EN010119-Advice-00002-1-201106%20North%20Falls%20Inception%20Meeting%20Note_FINAL.pdf
[4] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010115/EN010115-Advice-00001-1-191128_Galloper%20Extension.%20Meeting%20note.pdf

2.2 Development Consent Order

7. This section provides the Applicants' comments on SASES' Written Representation regarding the draft Development Consent Order (DCO) (REP1-367). It is presented as two tables. **Table 2.2** sets out SASES' summary of its detailed comments and **Table 2.3** sets out SASES' detailed comments on the draft DCO. The Applicants have provided comments on the detailed representations in **Table 2.3** and since the representations in **Table 2.2** predominantly summarise the detailed representations, in most cases, the Applicants' response in **Table 2.2** refers to **Table 2.3** where the matter is commented on in detail.

8. It is worth noting at the outset that the draft DCO is based on the Infrastructure Planning (Model Provisions) (England and Wales) Order 2009 (the "Model Provisions") as well as on extensive precedent. Furthermore, the Applicants have consulted with the relevant statutory bodies in respect of the draft DCO and have engaged with those bodies throughout the pre-application, post-application and Examination stages and the wording of the draft DCO reflects the outcome of that engagement.

9. The Applicants have therefore reviewed and commented on SASES' representations in that context. Many of the comments raised by SASES request changes to the draft DCO which are neither appropriate or necessary and would unnecessarily restrict or constrain the Projects, which are nationally significant infrastructure projects. However where suggested changes are considered to be appropriate, the Applicants have noted this within the tables and will amend the draft DCO to reflect this

Table 2.2 Applicants' Comments on SASES' Written Representation – Draft Development Consent Orders

ID	Written Representation	Applicants' Comments
1	**Summary** 1. The draft DCOs have a significant number of major flaws as follows. • There are serious omissions particularly in the Requirements. • The parameters of the authorised projects are either excessive or absent. • There is a lack of effective control over SPR and National Grid in key areas. • The consequences of two projects in a single DCO where one of those projects (the National Grid connection hub NSIP) is also the subject of another DCO are not properly addressed. • There is no requirement to consult the local community in matters which directly affect it. • A secret and exclusionary dispute resolution mechanism is proposed. 2. The key points are set out in greater detail below. Please note the order in no way indicates the relative importance of these issues. There is also attached a detailed analysis of the DCOs setting out all representations in greater detail and suggesting how the deficiencies in the DCOs might be addressed. 3. This written representation focuses on the onshore works and no comment is made at this stage on the DCO in respect of the offshore works. 4. The following issues need to be addressed and rectified together with the issues raised in the detailed analysis which is attached.	The Applicants disagree that the draft DCOs are flawed. With respect to specific points raised, see Applicants' comments in response to these matters in **Table 2.3** below.

ID	Written Representation	Applicants' Comments
2	**Onshore Preparation Works** Onshore preparation works are widely defined and include important works such as site clearance, demolition work, pre-planting of landscaping works, ecological mitigation, footpath creation, highway alterations etc. However because of the way the DCO is drafted (see definition of "commence") these seem to excluded from the control mechanisms set out in Part 3 of Schedule 1 – Requirements.	See Applicants' comments in response to this matter in **Table 2.3** below.
3	**Right to build operational access road granted four times** The 8m(27ft) wide and 1.7km (1.1mile) long operational access road is part of both the SPR NSIPs and the National Grid connection hub NSIP. Accordingly the rights granted to build a single road are granted four times. It is assumed given the further works that will be necessary at the National Grid connection hub for the other offshore energy projects (Nautilus, Eurolink, extension projects etc – see Written Representations concerning Cumulative Impact) that this road will in fact become part of the National Grid connection hub NSIP. The interrelationship between the two DCOs and the National Grid connection hub NSIP needs to be clarified.	See Applicants' comments in response to this matter in **Table 2.3** below.
4	**Excessive flexibility with regard to maintenance** Whilst SPR and National Grid have a right to maintain their authorised projects but they have no obligation to do so. Further maintenance includes the right to "alter" the authorised project which represents an unwelcome extension to their rights.	See Applicants' comments in response to this matter in **Table 2.3** below.

ID	Written Representation	Applicants' Comments
5	**Absence of an obligation to consult the community** In a number of areas where the conduct of the works will have a direct effect on the community (for example highway and footpath closures, use of watercourses) and where greater detail needs to be agreed with the local planning authority there is no obligation to consult the local communities affected.	See Applicants' comments in response to this matter in **Table 2.3** below.
6	**The use of a secret and exclusionary dispute resolution mechanism** Whilst arbitration has its place in the resolution of commercial disputes it is not appropriate given the public interest in ensuring NSIPs are properly conducted. Further given the additional expense arbitration can involve this will only operate to further exclude members of the community from seeking redress in the event of non-compliance with the DCOs.	See Applicants' comments in response to this matter in **Table 2.3** below.
7	**Excessive flexibility to determine generating capacity** There is a history, despite the need for renewable energy, of the generating capacity of offshore wind farms being reduced by developers. However when this happens there is no commensurate reduction in the size of the infrastructure or land take onshore - see Written Representations concerning the Rochdale Envelope/Design. Despite EA1N and EA2 being described to have a generating capacity of 800MW and 900MW respectively the DCOs only require a 100MW windfarm to be constructed. In the absence of any requirement to reduce the scale of onshore infrastructure in the case of reduced generating capacity this 100MW figure should be replaced by a range of 750MW to 800MW in the case of EA1N and 850MW to 900MW in the case of EA2.	See Applicants' comments in response to this matter in **Table 2.3** below.

ID	Written Representation	Applicants' Comments
8	**Lack of clarity in respect of requirements compliance** The rights to construct and operate the National Grid connection hub will undoubtedly be transferred to National Grid which will have a separate contractual relationship with its building contractor. Whilst in respect of some of the requirements it can be clearly identified which of SPR and National Grid will have responsibility, that is not true for all requirements (for example, implementation and maintenance of landscaping, control of noise, control of artificial light) To avoid any confusion there should be a clearly identified a list of requirements for the SPR NSIP and a separate clearly identified list of requirements for the National Grid connection hub NSIP.	See Applicants' comments in response to this matter in **Table 2.3** below.
9	**Seven year time limit** SPR and National Grid have up to 7 years in which to commence the works under each DCO. This is excessive.	See Applicants' comments in response to this matter in **Table 2.3** below.
10	**Parameters are excessive or non-existent** Written Representations have been made in respect of the use of the Rochdale Envelope and substation design. No justification has been made for the parameters set out in the DCOs nor is there any requirement to design the onshore infrastructure efficiently from an engineering perspective, the focus is on aesthetics only contrary En-1, EN-3 and EN-5. Furthermore the National Grid substation is not subject to the outline onshore substation design principles statement and the remainder of the National Grid	See Applicants' comments in response to these matters in **Table 2.3** below.

ID	Written Representation	Applicants' Comments
	connection hub cable sealing ends etc is not subject to any design control nor is there any parameter in respect of their areas. Given the impact of the onshore infrastructure on the landscape, heritage assets and flood risk these parameters need to be independently verified and any detailed design subject to an independent review both from the perspective of aesthetics and engineering efficiency to reduce the area and height of all the onshore infrastructure located at Friston – see further written representations on the Rochdale Envelope. There are no parameters associated with the operational access road width, length etc nor is there any control over its design, drainage, fencing etc. There are a number of other parameters in Paragraph 12 of Part 3 of Schedule 1 but there does not seem to have been any independent justification that these parameters are reasonable. There is no requirement to reduce the size of the grid connection works if only one SPR substation is built.	
11	**Consecutive construction periods, excessive construction hours and inadequate OCoCP** The Applicant has the flexibility to decide whether to build the projects concurrently or consecutively. This is the effect of separate DCOs for projects which are identical onshore for practical purposes. This has simply created	In the ***Project Update Note*** (REP2-007) submitted at Deadline 2, the Applicants made a commitment that where the East Anglia TWO and the East Anglia ONE North projects are constructed sequentially, when the first project goes into construction, the cable ducting for the second project will be

ID	Written Representation	Applicants' Comments
	yet greater uncertainty and has the potential for prolonging an extremely disruptive construction process. The Applicant should not be permitted to build the cable routes consecutively. Both must be built at the same time. Whilst that might involve a small element of financial risk that is more than offset by the benefits. In terms of construction at the substation site a mechanism needs to be introduced into both the DCOs to minimise consecutive construction. This cannot be left at the discretion of the Applicant. Friston and most of the onshore cable route is a tranquil rural area with a number of elderly and retired residents who spend a significant amount of time in their homes and gardens. Any construction work will have a significant impact on the quiet enjoyment of their property and their lives. In such circumstances weekend working is not acceptable nor is working until 19:00 hours. Working hours should be 08:00 to 16:00 with no weekend or bank holiday working. Furthermore there should be no construction traffic outside of these hours. In addition there are a number of circumstances in which SPR and National Grid can work outside of these hours. On the basis the current drafting these rights could be used if the need for extra working was caused by mismanagement of the works. There is insufficient detail in the OCOCP in a number of areas - see Written Representations concerning Noise - see Written Representations concerning Construction both Substation and Onshore Cable Corridor.	installed along the whole of the onshore cable route in parallel with the installation of the onshore cables for the first project. This commitment is secured within a new Requirement 42 included within the ***draft DCO*** (REP3-011) submitted at Deadline 3. See Applicants' comments in **Table 2.3** below in respect of the other matters raised.
12	**Absence of flood risk strategy** There is a serious flood risk at the Friston site (see Written Representations concerning Flood Risk) and yet there is no requirement to develop and agree a strategy to address this risk.	See Applicants' comments in response to this matter in **Table 2.3** below.

ID	Written Representation	Applicants' Comments
13	**Requirements in respect of operational noise inadequate** As set out in the Written Representations concerning Noise, the Environmental Statement on this topic is defective. As a result the requirements concerning operational noise are inadequate and fail to address the reality of all the noise impacts resulting from the onshore substation and the National Grid connection hub, which is omitted from the requirements in respect of noise.	See Applicants' comments in response to this matter in **Table 2.3** below.
14	**THE PROBLEMS WITH ARTBITRATION** No reason is given for the use of arbitration as a dispute resolution mechanism in the DCO. The Explanatory Memorandum simply states that the "concept is derived from the Model Provisions". There are a number of issues with arbitration which make it inappropriate as a dispute resolution mechanism in the context of these DCOs. 1. SECRECY - In concept arbitration is a process whereby two private parties agree to have disputes between them determined in a private process by a decision maker (the arbitrator) of their choice. Whilst that might be appropriate in the context of a commercial contract between two commercial entities it would seem wholly inappropriate in the context of a project whose execution is a matter of public interest and where arbitration is imposed without the agreement of the parties which are to be subject to it. The secrecy of arbitration is particularly inappropriate in the context of issues which relate to the public interest. The secrecy is reinforced by paragraph 7 of Schedule 15 which states that the arbitration is to take place in private and all documents etc and the awards are to be confidential. 2. IMPARTIALITY AND INDEPENDENCE - Unlike the judiciary whose impartiality and independence can be assumed, this is not the case for arbitrators. The difficulty arises because someone who would be qualified, in terms of expertise and experience in these matters, as an arbitrator may be somebody who has acted as a professional advisor for Iberdrola, SPR or	See Applicants' comments on the arbitration provisions in **Table 2.3** below.

ID	Written Representation	Applicants' Comments
	National Grid in the past, or may hope to do so in the future. Or he/she may be somebody who advises developers in the sector even if they have not advised Iberdrola, SPR or National Grid. It can be very difficult to find somebody to act as an arbitrator who is not only independent and impartial but who is perceived to be independent and impartial. Perception is very important as without a perception of independence and impartiality there will be No. faith in or acceptance of the arbitrator's award. 3. COSTS OF THE ARBITRATOR/ARBITRATION - Unlike the courts, in arbitration there are additional costs. You have to pay the cost of the arbitrator and for the location in which the arbitration takes place. This can add to costs rather than reduce them. Whilst this may be acceptable for a multibillion euro International energy company like Iberdrola and National Grid it would seem inappropriate where private individuals may be seeking to bring a claim for them to have to bear the cost of the dispute resolution process itself. 4. COSTS GENERALLY - if a dispute was to arise as to whether SPR or National Grid was complying with the terms of the likely parties will be the local planning authority or private individuals who are suffering the consequences of non-compliance with the DCO. There is a complete mismatch of resources between SPR I'm National Grid on the one hand (a multibillion companies) and local authorities. This mismatch is even more pronounced with private individuals. In such circumstances, which are far removed from the circumstances in which arbitration normally operates, the usual rules in relation to costs should reflect this imbalance. In such circumstances the provisions relating to costs in the DCO are onerous not least because the arbitration rules have largely removed the discretion of the arbitrator in relation to costs. Under paragraph 6 of Schedule 15 it is provided that the arbitrator "must" award recoverable costs. There is no consideration as to the ability of parties to bear those costs. Why is this important? The effects of these provisions on costs will have a disproportionate "chilling effect" on the ability of the community to challenge non-compliance by SPR and National Grid with the terms of the DCO. This means that the local community is left without an effective remedy to ensure that SPR and National Grid comply with the terms of the DCO.	

ID	Written Representation	Applicants' Comments
	5. DEALING WITH LITIGANTS IN PERSON – arbitration is usually a process between commercial organisations who will be represented by expert advisers both legal and technical. Members of the community will not generally have the resources to employ such people and therefore may well have to appear as "litigants in person". The judiciary has experience of dealing with unrepresented individuals in legal proceedings and will make the necessary adjustments to ensure fairness. Arbitrators generally do not. Accordingly for the reasons set out above arbitration as a means of dispute resolution would seem to be a particularly inappropriate and unfair dispute resolution mechanism and the courts of England and Wales should be the preferred means of resolving disputes unless the deficiencies of arbitration set out above can be addressed.	

Table 2.3 Applicants' Comments on SASES' Written Representation – Draft Development Consent Orders (Detail)

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
PART 1				
1	Definition of "commence" and exclusion of onshore preparation works	The exclusion of onshore preparation works from the definition of commence is problematic because of the breadth of the definition of these works which goes significantly beyond a matter of conducting surveys it includes site clearance, demolition, pre-planting of landscaping, ecological mitigation, diversion and laying of services,	If the exclusion of onshore preparation works is to be included in this definition then the definition of onshore preparation works needs to be substantially narrowed and be limited to survey work only.	It is standard practice in orders for nationally significant infrastructure projects (NSIPs) to exclude preparatory activities from the definition of commence. It has however already been acknowledged by the Applicants that some of the onshore preparation works may potentially have environmental effects and therefore such preparation works have already been made

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		Direction of temperamental enclosure, creation of site accesses, footpath creation, highway alterations. However by excluding such works from the definition of commence this could mean that these works will not be subject to the requirements set out in Part three of Schedule one which many of which are only triggered by "commencement" of works. For example paragraph 14 – provision of landscaping, paragraph 15 – implementation and maintenance of landscaping, paragraph 17 – fencing and other means of enclosure, paragraph 21 – ecological management plan, paragraph 22 – code of construction practice is, paragraph 28 – traffic, paragraph 32 – public rights of way.		subject to appropriate requirements and conditions to ensure that the relevant planning authority can approve details in respect of such works before they are carried out (for example, requirement 19 requires details of intrusive pre-commencement archaeological surveys, archaeological investigations or site preparation works in respect of such surveys or investigations to be provided in a pre-commencement archaeology execution plan which must be approved by the relevant planning authority before such pre-commencement works can be undertaken and requirement 21 requires the approval of an ecological management plan prior to onshore preparation works being undertaken). This approach to the definition of commence is critical to ensure that pre-commencement activities can be carried out in a timely manner prior to commencement of the works and do not hold up the construction of the project, whilst still being subject to appropriate controls and approvals.
2	Definition of "maintain"	This definition includes the word "alter". The meaning of alter is to broad/uncertain and goes beyond the concept of maintenance. This is very important as maintain is a key	The word "alter' should be removed from the definition of maintain.	The word "alter" is found within the definition of "maintain" in the Infrastructure Planning (Model Provisions) (England and Wales) Order 2009 and has been included in the definition of "maintain" in

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		definition for rights to enter and use land and in relation to Noise pollution/nuisance – see Section 7		a vast number of development consent orders to date, including the recent Norfolk Vanguard Offshore Wind Farm Order 2020. The Applicants disagree that "alter" goes beyond the concept of maintenance. Furthermore, the definition limits maintenance activities to what has been assessed in the environmental statement.
3	Grid connection works include work No. 34	Work No. 34 is the permanent operational access road, which is referred to twice, both in the description of the SPR NSIP in paragraph 1 of Part 1 of Schedule 1 and in the description of the National Grid NSIP in paragraph 2 of Part one of Schedule 1. This means that if both DCOs are granted the rights to build a permanent access road will be granted four times. There is a reference to "associated development" which is not defined. Is this meant to be a reference to the associated development set out in the description of the NSIPs in Schedule 1?	It should be clarified which NSIP work number 34 is part of. It is assumed given the plans to expand the National Grid substation that should be Part of the National Grid NSIP. "associated development" should be defined by reference to the associated development described in Part 1 of Schedule 1	Work No. 34 is associated development. It has been included in both paragraph 1 and paragraph 2 of Schedule 1, Part 1 because it is associated with both the generating station NSIP and the electric lines NSIP. Work No. 34 will only be constructed once. Associated development is defined in section 115(2) of the Planning Act 2008 and therefore it is not necessary to define this term within the DCO. This approach is in accordance with PINS Advice Note 15 which states that *"terms defined in the parent legislation (ie the PA2008) or in the Interpretation Act 1978 do not need to be re-defined in the DCO".*
4	Definition of "onshore works"	Given the scope of the onshore preparation works which includes landscaping works, footpaths etc (which should be the subject of the Requirements set out in Part 3 of Schedule	The words "which for the avoidance of doubt include the onshore preparation works"	The Applicants do not consider this to be necessary or appropriate. The definition of onshore works refers to the transmission works

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		1) the definition of onshore works should include a reference to the onshore preparation works being part of the onshore works. Presumably there are separate onshore preparation works for each NSIP and these will be carried out on behalf of two different parties, SPR and National Grid.	should be added to the definition of onshore works. It should be clarified which onshore preparation works relate to each NSIP.	and the grid connection works, both of which are defined by reference to the relevant Work Nos. and any related associated development. To the extent that the onshore preparation works constitute associated development, they will be caught within the definition of "onshore works".
5	Definition of "onshore preparation works"	See comments above. A number of the onshore preparation works involve matters which will have a significant impact on the landscape, ecology etc and their conduct should mean that the authorised project has commenced. For example works which should not be considered to be part of preparation are site clearance, demolition work, pre-planting of landscape works, ecological mitigation, remedial work in respect of any contamination, diversion of services, creation of site accesses, footpath creation, highway alterations etc. Their inclusion in the definition of onshore preparation works could mean that they are excluded either in whole or in part from the Requirements set out in Part 3 of Schedule 1.	This definition should be amended so that it only refers to investigation and survey work. The relevant paragraphs of Part 3 of Schedule 1 should apply to the remainder of what are described as onshore preparation works.	See Applicants' response to in Row 1 above.
6	Definition of "order limits"	This is a critical definition as this is the only limitation on how the SPR will conduct the works. This restriction is set out in section 3(1). The order limits are defined by reference	The areas for working which are close to residential dwellings or heritage assets should be eliminated unless there is clear	Full justification for the land and rights sought is provided within the ***Statement of Reasons*** (REP1-006).

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		to the limit shown on the works plans which are to be certified. This would lead one to the conclusion that the only control over the size and manner of the development is as set out in the plans and Part 3 of Schedule 1. In relation to the area subject temporary use many these areas come extremely close to residential dwellings and communities. For example there is a temporary working area which comes right to Church Road a road which runs alongside Friston Parish Church a Grade II* listed building on which there are residential dwellings.	overriding need for that land to be used and such use should be minimised. It should be noted that the SPR has a substantial area for construction consolidation sites.	The impacts of construction works taking place within the order limits have been fully assessed within the Environmental Statement.
7	Transmission works includes work No.. 34	See comments on the definition of grid connection works above.		See Applicants' response in Row 4 above.
8	Definition of "undertaker"	It needs to be clarified that the undertaker is not only East Anglia ONE North Limited (or East Anglia TWO Limited) but any person or persons to whom the benefit of the Order is transferred which in the case of the National Grid NSIP will be the relevant division of National Grid.	Definition to be amended.	The Applicants do not consider it necessary to amend the definition of "undertaker". Article 5 makes provision for the benefit of the order to be transferred and there is no need to make reference to this provision within the definition of "undertaker".
PART 2				

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
9	3	This provides that the SPR is given consent for the authorised development on the basis it is carried out within the order limits. However it is not stated that the authorised development is also subject to Part 3 of Schedule 1 - Requirements	Section to be amended to include an express reference to Part 3 of Schedule 1.	Article 3 states "*Subject to the provisions of this Order and to the requirements…*" and "requirements" is defined in Article 2(1) as "*those matters set out in Part 3 of Schedule 1 (requirements) to this Order*". The Applicants therefore do not consider it necessary to make specific reference to Part 3 of Schedule 1 within Article 3.
10	4	This section sets out a right to maintain the authorised project but there does not appear any obligation (as opposed to a right) to maintain the authorised project.	The section should be amended to contain express obligation for SPR and National Grid to maintain their respective NSIPs.	The Applicants do not consider it necessary to include such an obligation. The relevant undertaker will carry out such maintenance as is required. There is no relevant precedent for including such an obligation within the DCO.
11	5	There are broad rights to transfer the benefit of the order – there needs to be clarity that for the NG NSIP the rights will be transferred to NG and when – we understand NG will be carrying out these works. No consultation is required ahead of any transfer. Given consent will be granted twice for the same works how will these consents interact with each other particularly in relation to transfer. Presumably if these rights are exercised under one DCO the consent	These issues need to be addressed.	The Applicants do not consider it necessary for Article 5 to oblige the undertaker to transfer the benefit of the Order in respect of the grid connection works to NGET, nor is it necessary to specify when the rights will transfer. This is a decision that will be taken by the Applicants post consent and whilst the intention is to transfer the powers to NGET, it is necessary to retain flexibility and it is not necessary for this to become an obligation on the face of the DCO. Regardless of when any transfer takes place, the authorised projects will require to be constructed

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
		granted under the other DCO should be extinguished?		and operated by the relevant undertaker in full accordance with the DCO. Whilst consent for the grid connection works is being sought within both DCOs, Requirement 38 prevents the grid connection works being constructed more than once.
12	7	This article modifies provisions in respect of statutory nuisance by reference to the noise requirements and to whether impacts can "reasonably be avoided". The difficulties with requirements 26 and 27 are explained in the Written Representations concerning Noise. The "reasonably be avoided" test is an unnecessary qualification since a defence of using "best practicable means" is in any event available. The statutory test should be maintained	Delete article 7(1)(a)(ii) and 7(1)(b).	The Applicants do not agree and do not consider that the provisions specified should be deleted. Article 7 is based on the Model Provisions and has been included in many DCOs to date. The Projects are nationally significant infrastructure projects and as such, it is necessary for such a defence to be included within the DCO. The Applicants consider Article 7 to be reasonable and proportionate in the context of the Projects.
13	7	The defence to proceedings for statutory nuisance should only be available if the undertaker has and is complying with the requirements set out in Part 3 of Schedule 1.	A new section 7 (3) to be inserted setting out that the provisions of section 7(1) and (2) shall only have effect if the undertaker has and is complying with the requirements set out in Part 3 of Schedule 1.	The approach suggested is not consistent with the Model Provisions or with precedent and the Applicants do not consider that such amendments are necessary or appropriate. The Projects are nationally significant infrastructure projects and as such, it is necessary for such a defence to be included within the DCO. The Applicants consider Article 7 to be

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				reasonable and proportionate in the context of the Projects.
14	**PART 3**	Anything in this Part that requires the approval of the relevant highways authority or planning authority should also require consultation with the relevant Parish Council given the impact on people's daily lives these powers will have.	An express reference to the need to consult relevant parish councils to be inserted	The relevant planning authority or highway authority is the relevant statutory body for approving such documents and it is not necessary, appropriate or indeed precedented for parish councils to be named as consultees in respect of the approval of such documents within the articles of the DCO. In fulfilling its role it is at the discretion of the approving authority to seek input (be that views or particular expertise or information) from whomever it wishes. It is not appropriate for an obligation to consult parish councils to be imposed on the relevant planning authority or highway authority.
15	10	This section should be entitled "Permanent stopping up of public rights of way" to be consistent with section 11.	-	Article 10 deals with the creation and extinguishment of public rights of way and the Applicants consider the heading "public rights of way" to be appropriate. The Applicants therefore do not consider any change to the heading to be required.
16	12	These rights are extremely broad. They not only extend to specified streets but also any other streets.	The undertaker should be restricted to the identified streets as it is for PROWs	Article 12 is a standard provision based on the Model Provisions and is found in a vast number of DCOs including the recent Hornsea Three

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
				Offshore Wind Farm Order 2020, Norfolk Vanguard Offshore Wind Farm Order 2020 and Cleve Hill Solar Park Order 2020 and such powers are necessary to ensure the delivery of the Projects which are nationally significant infrastructure projects. Should it be necessary to stop up any streets not specified within Schedule 5, it will be necessary to obtain the consent of the street authority prior to stopping up the street. There are therefore appropriate controls in place.
17	13	These are rights are extremely broad. They not only extend to specified means of access but also any other access which may be reasonably required. There should be restrictions as to what each of the means of access can be used for.	The undertaker should be restricted to the means of access specified in Schedule 6. For example AC5 is not required for the project other than for abnormal indivisible loads. Construction works for the operational access road (work no. 34) should be accessed from the main substation site for which access is AC4	Article 13 is a standard provision based on the Model Provisions and found in numerous DCOs including the recent Hornsea Three Offshore Wind Farm Order 2020, Norfolk Vanguard Offshore Wind Farm Order 2020 and Network Rail (East West Rail) (Bicester to Bedford Improvements) Order 2020 and such powers are necessary to ensure the delivery of the Projects which are nationally significant infrastructure projects. The power to form and lay out means of access not specified in Schedule 6 is subject to approval from the relevant highway authority in consultation with the relevant planning authority and therefore there are sufficient controls in place.
PART 4				

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
18	16	This section relates to the discharge of water into water courses etc. Given the serious flood risk at the substation site and at Friston the undertaker should consult with Friston Parish Council before exercising any rights under this section. See comments on Part 3 of Schedule 1 - Requirements below relating to the absence of requirements in respect of operational flood risk.		As confirmed by Suffolk County Council and East Suffolk Council in row LA-05.06 of the ***Draft Statement of Common Ground with East Suffolk Council and Suffolk County Council*** (REP1-072) flood events in the Friston area during late 2019 – early 2020 were not a direct result of surface water runoff from land associated with the proposed site of the onshore substation or the National Grid infrastructure. Article 16 relates to the rights to discharge into watercourses and the provision requires the consent of the owner of the watercourse prior to discharges being made. It is not appropriate or necessary to name Friston Parish Council as a consultee in respect of this article. Any required mitigation in respect of discharges is secured through the requirements of the draft DCO and set out within the relevant outline plans (for example, the ***Outline Code of Construction Practice*** (REP3-022) and the ***Outline Operational Drainage Management Plan*** (document reference ExA.AS-1.D4.V2). The relevant planning authority is the appropriate approving authority in respect of these plans and it is not necessary or appropriate to name Friston

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				Parish Council as a consultee in respect of these requirements.
19	30	This section authorises the operation of the "generating station". This term is not defined. Any rights granted to operate the development should be subject to compliance with all the provisions of the DCO relating to operational matters for example Part 3 of Schedule 1	It needs to be clarified what the generating station means. New section 30(3) to be inserted requiring compliance with the DCO including without limitation Part 3 of Schedule 1	It is not necessary to define generating station as this is a defined term in the Planning Act 2008. Furthermore, Article 30(1) refers to the generating station comprised in the authorised project. The authorised project is the authorised development described in Part 1 of Schedule 1. The description of Work No. 1 in Part 1 of Schedule 1 clearly describes the generating station. Article 30 is a standard provision that appears in numerous DCOs for generating station NSIPs including the recent Hornsea Three Offshore Wind Farm Order 2020, Norfolk Vanguard Offshore Wind Farm Order 2020 and Riverside Energy Park Order 2020. It is not necessary to include text requiring compliance with the DCO as this is implicit within the DCO and, to the extent that requirements are relevant to the operational period, they are worded as such and must be complied with.
20	33	The significance of this section needs to be explained.		Article 33 provides that development consent granted by the DCO shall be treated as specific planning permission for the purposes of section 264(3)(a) of the Town and Country Planning Act

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				1990. This is a standard provision that can be found in the Model Provisions and numerous DCOs and is necessary to ensure that permitted development rights apply to the Projects, as they would do if the works were to be authorised by way of planning permission.
21	34(1)	It needs to recognised that cutting back the roots of a tree or shrub may well involve the destruction of that tree or shrub. The felling or other destruction should only be permissible where it is "necessary" not when the developer reasonably believes it to be.	Delete the words "reasonably believes it to be". After the word "apparatus" insert the words "which it is necessary to use" and remove the word "used".	The text referred to can be found in the Model Provisions and in a vast number of DCOs including the recent Hornsea Three Offshore Wind Farm Order 2020, Norfolk Vanguard Offshore Wind Farm Order 2020 and Manston Airport Development Consent Order 2020. Given that tree roots are below the ground, the full extent of roots may not always be known and therefore the Applicants consider the text to be necessary and proportionate to ensure the protection of the authorised project and the apparatus used in connection with the authorised project. It should also be noted that paragraph (2) of Article 34 states that in carrying out any activity authorised by paragraph (1), the undertaker must do no unnecessary damage to any tree or shrub. Furthermore, Requirement 21 of the draft DCO requires the submission and approval of an Ecological Management Plan (EMP) which must

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				accord with the ***Outline Landscape and Ecological Management Strategy*** (OLEMS) (REP3-030). The OLEMS includes a number of commitments in relation to woodland, trees and scrubs including making provision for the appointment of an arboricultural clerk of works (ACoW). The OLEMS also requires a pre-construction walkover survey to be undertaken by the ACoW, ecological clerk of works (ECoW) and an engineer to assist in micro-siting of works along the onshore cable route to minimise woodland, tree and scrub loss. The ACoW would work in line with the British Standard 5837 (2012) to reduce the number of trees to be removed and to protect trees situated in or adjacent to the working width. The ACoW would also produce an Arboricultural Method Statement which must be submitted to the relevant planning authority for approval as part of the EMP, in accordance with Requirement 21. There are therefore appropriate controls in place with regard to removal of trees, shrubs and hedgerows.
22	34(4)	This provision relates to the destruction of hedgerows and it should be subject to the same tests as those which have to be fulfilled for the destruction of trees or shrubs. A test of "that may be required" gives far too much	Delete the words "that may be required" and replace with the words "that it is necessary to remove"	Paragraph (4)(a) of Article 34 is subject to paragraph (2) which states that the undertaker must do no unnecessary damage to any tree or shrub. The Applicants therefore do not consider the change proposed to be necessary.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
		scope for the unnecessary destruction of hedgerows.		Furthermore, details of hedgerows to be removed will be set out within the Ecological Management Plan which must be approved by the relevant planning authority in consultation with the relevant statutory nature conservation body in accordance with Requirement 21 prior to the commencement of works and therefore the removal of hedgerows will be subject to approval.
23	35(1)	This section permits the felling of trees subject to TPOs. The cut-off date of 25 June 2019 is too early. The destruction of tree should only be permissible where it is "necessary" not when the developer reasonably believes it to be. Sub section (b) refers to "passengers or other persons using the authorised project."	The cut-off date should be the latest possible date at which all relevant trees could be identified. Delete the words "reasonably believes it to be". This wording would seem to be superfluous and should be deleted	It was necessary to specify a date prior to finalisation of the application documents and the Applicants consider this date to be appropriate. As noted above, given that tree roots are below the ground, the full extent of roots may not always be known and therefore the Applicants consider the text to be necessary and proportionate to ensure the protection of the authorised project and the apparatus used in connection with the authorised project. The Applicants acknowledge the comment made regarding the text of Article 35(1)(b) and will amend this text in the next version of the draft DCO to "from constituting an unacceptable source of danger (whether to children or to other persons)" to reflect the powers granted to electricity licence holders within paragraph 9(1)(b)

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
				of Schedule 4 to the Electricity Act 1989 which the Applicants consider would be more appropriate.
24	35(2)	This Section would appear to remove the obligation to replace trees which are destroyed.	The developer should be required to plant trees in locations to be agreed to replace those which are destroyed such trees to be capable of meriting TPO status in the future.	It is necessary for Article 35 to make provision for the duty in section 206(1) of the 1990 Act (replacement of trees) not to apply as the obligation within that provision is to replant trees in the same location as those removed and that is not feasible in the case of the Projects as it is not practicable to plant trees above the onshore cables once they have been installed. Planting of trees is however part of a suite of mitigation measures that the Applicants have committed to. Such measures are set out within the ***OLEMS*** (REP3-030) and are secured by Requirements 14 and 21 of the draft DCO. In particular, Work No. 24 has been included within the Applications to provide an area for trees to be planted to replace trees removed as part of Work No. 20.
25	36	This Section certifies key documents referred to in the DCO and in particular documents which set out in greater detail matters which are subject to Part 3 of Schedule 1 – Requirements. Given the importance of these documents it is essential that their content is clearly agreed by the local authority and that the community is aware of any changes since the applications.	When the final versions of these documents are determined they must be marked up to show all changes from the documents submitted with the applications so it is clear what changes have been made during the course of the examination process. Prior to submitting the final version of	Outline documents updated and re-submitted during the Examination are accompanied by a track changed version so that changes from the previous version can be easily identified. Article 36 places a legal obligation on the undertaker to submit copies of the versions of the documents specified within Article 36 (being the

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
			these documents to the Secretary of State for certification it should be accompanied by a statement from the local authorities that the document is in the form agreed during the course of the examination.	latest versions submitted to the Examination). It is not necessary or appropriate to require the relevant planning authorities to confirm that the correct versions are being submitted. This will create an administrative burden on the relevant planning authorities which is wholly unnecessary. Upon receipt of the documents, the Secretary of State will be able to check if the versions submitted reflect the versions referred to in the draft DCO.
26	37	This section replaces the jurisdiction of the courts as a forum for disputes with arbitration. Arbitration has a number of disadvantages which will act to the detriment of the community/private individuals – see commentary The Problems With Arbitration	This section should be deleted and be replaced with the jurisdiction of the courts of England and Wales.	It is standard practice to include an arbitration provision within a DCO. This is necessary to ensure the timely resolution of disputes for nationally significant infrastructure projects. Article 37 of the draft DCO has however been amended at Deadline 3 to clarify that it won't apply to decisions of the Secretary of State or the Marine Management Organisation.
27	39	The works referred to are offshore works. It is not appropriate that these should be allowed to be abandoned or allowed to fall into decay. Therefore the Secretary of State must require the undertaker at its own expense to repair and restore or remove these works. Not to do so would be inconsistent with the environmental credentials of offshore wind.	Delete the words "may, Following consultation with the undertaker," and replace by the word "must"	This is a standard provision found in offshore wind DCOs and harbour orders. It is only intended to apply to the offshore structures in order to mitigate against potential offshore impacts. The Applicants do not agree with the changes suggested which would place an obligation on the

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		This section should apply to the entirety of the authorised project and not just work nos 1, 2 and 3, namely the wind turbines and offshore platforms	This section should be amended to refer to the authorised project rather than a limited number of works.	Secretary of State to issue a notice, thus fettering the Secretary of State's discretion. The Applicants also do not agree that the scope of the provision should be extended to cover the onshore works since the provision relates to offshore matters.
SCHEDULE 1				
PART 1				
28	Work No. 1	No upper generated power limit specified, only to be in excess of 100MW. EA1N and EA2 have been described to be 800 MW and 900 MW windfarms Given the history of downsizing of wind power projects (See Written Representations concerning the Rochdale Envelope and Design) and the need for renewable energy there needs to be a greater obligation upon SPR to deliver this power if the project is to go ahead.	Electrical output capacity to be specified to be in the range 750MW to 800 MW (EA1N) and 850MW to 900MW (EA2).	It is not necessary, or appropriate to specify the capacity of the Projects on the face of the draft DCO. All relevant parameters are specified within the draft DCO and are linked to what has been assessed within the environmental statement. Output capacity is not a relevant parameter and does not require to be specified on the face of the DCO. The approach taken in the draft DCO reflects that in the very recent Hornsea Three Offshore Wind Farm Order 2020.
29	Works Nos. 6 - 32	There are many references to cable ducts in these Works Nos. It does not seem to be specified how many cable ducts there will be this needs to be clarified as there is no reference in Part 3.	Number of cable ducts to be specified, such number of ducts to be any those necessary for EA1N and EA2.	The Applicants will update the draft DCO to specify the number of cable ducts.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
30	Work No. 30	This should refer to the onshore substation as defined.	the words "a new" should be substituted by "the".	The Applicants disagree with this comment and consider the description of Work No. 30 to be appropriate.
31	Work No. 34	This work is included both in the SPR NSIP and the National Grid NSIP. It is unclear what this means in practice. Will SPR and National Grid be jointly responsible for these works and the mitigation which will require to be maintained post development? Can the rights granted in respect of work number 34 be transferred to 2 separate parties or can only be transferred to one party. This needs to be clarified. It also needs to be clarified what rights each party will have in relation to the use of work number 34 in the future. This road is to be an "operational" access road; it should not be used for construction purposes either for this authorised project or for the subsequent projects, Nautilus, Eurolink, the extension project, SCD1 and SCD2	tbd	The undertaker is responsible for Work No. 34. Should any powers or obligations in respect of Work No. 34 require to be transferred then this will be done in accordance with the provisions of Article 5. Regardless of when any transfer takes place, the authorised projects will require to be constructed and operated by the relevant undertaker in full accordance with the DCO. The new permanent access road is designed to meet the need of the authorised projects only. If future projects were to be constructed within the vicinity of the substation site, such projects would be the subject of their own consent applications and would require an assessment of appropriate access routes to serve their projects in accordance with relevant legislation.
32	Work No. 38	As there is for the onshore substation and National Grid substation it would be helpful to have a definition of cable sealing end compound to understand what they are. The description is very vague.	tbd	The Applicants consider the description of Work No. 38 to be appropriate however in order to provide further clarity the Applicants will update

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
				the draft DCO to include a definition of cable sealing end compound.
33	Work No. 41	This should refer to the national grid substation as defined.	the words "a new" should be substituted by "the".	The Applicants disagree with this comment and consider the description of Work No. 41 to be appropriate.
34	**SCHEDULE 1 PART 2**	Given the wide definition of further associated development set out in paragraphs 1 and 2 of Part 1 of Schedule 1 it would seem unnecessary to have a definition of ancillary works.	Delete Part 2 and amend Part 1 as necessary	Associated development and ancillary works are not the same and therefore the Applicants do not agree with the suggested changes.
35	**SCHEDULE 1 PART 3**	Given there are two separate NSIPs and the rights under the DCO may be transferred from SPR to two different organisations one of which will be National Grid it would be clearer if Part 3 was split between the requirements which affect the SPR NSIP and the requirements which relate to the National Grid NSIP. It is unclear whether the requirements insofar as they relate to the development onshore need to be met in respect of the onshore preparation works - see comments above in respect of the definition of "commence". The content of the documents and plans etc which are to be approved under this part will	tbd	The requirements have been drafted to apply to the relevant works to which they relate and they can be discharged in respect of specific stages as appropriate. The Applicants do not consider any changes are required to split requirements out. This would result in unnecessary duplication and may cause confusion. Where a requirement applies to onshore preparation works or works falling within the definition of onshore preparation works, this is made clear within the relevant requirement. The approving authority in respect of each requirement is the relevant statutory body and it is not necessary, appropriate or indeed precedented for parish councils to be named as consultees in

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		have a significant impact on the parishes where the works are to take place. However there is no reference to the fact that the community is affected should be consulted. This also applies to amendments to such documents and plans	There should be an obligation to consult affected parishes.	all of the requirements regulating the project. In fulfilling its role it is at the discretion of the approving authority to seek input (be that views or particular expertise or information) from whomever it wishes. It is not appropriate for an obligation to consult parish councils to be imposed on the relevant planning authority or highway authority.
	1	The period of seven years within which to commence works is far too long particularly given SPR is reserving the right to build EA1N and EA2 consecutively. This is also relevant to cumulative impacts given that least six other projects may connect to the grid at Friston all of which will require additional works there. In addition the relationship between the EA1N DCO and the EA2 DCO needs to be clarified in respect of the National Grid NSIP. For example if a Scottish Power starts works under the EA1N DCO should that mean that Scottish Power's/National Grid's rights under the EA2 DCO are extinguished.	Period to be shortened to 3 years Relationship to other projects to be clarified	The Applicants consider that the period of seven years specified within requirement 1 is necessary and appropriate for the reasons set out within the ***Explanatory Memorandum*** (APP-025) and in the ***Applicants' Responses to Examining Authority's Written Questions Volume 7: 1.5 Draft Development Consent Order*** (REP1-110). Requirement 38 prevents the grid connection works being constructed more than once.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
36	11	There is no reference to ancillary works in the works which require approval by the planning authority.	To extent that ancillary works remain in the DCO (see above) they should also be referred to in this paragraph.	The ancillary works do not constitute development and therefore it is not necessary for such works to be captured within this requirement.
37	12(1) & (2)	Only the "layout, scale and external appearance" of the onshore substation have been referred to. However there is a need to ensure that the onshore substation is engineered as efficiently as possible to reduce its size and scale.	Tbd - see Written Representations concerning the Rochdale Envelope/Design. Therefore the language in this paragraph needs to be amended so it is clear that SPR is required to ensure that the engineering design is as efficient as possible (including in respect of size and noise) and evidence should be produced to the satisfaction of the local planning authority to confirm this e.g. the report of an independent consulting engineer.	See response within ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072). The changes suggested are not appropriate for the face of the DCO as key parts of the substation design and layout will be premised on delivering electrical performance and safety within the parameters set within the DCO, and as required by various design standards set within the electricity industry. The relevant maximum parameters are secured within the draft DCO and details of the layout, scale and external appearance of the substation must be approved by the relevant planning authority and such details must accord with the ***Substations Design Principles Statement*** (document reference ExA.AS-28.D4.V1) submitted at Deadline 4. The Applicants consider that the current requirements set clear limits based on what has been assessed within the environmental statement whilst allowing effective procurement and delivery of these elements of the Projects within the required timescales. The Substations

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				Design Principles Statement makes provision for independent input (by the Design Council or equivalent) in addition to substantial consultation. Good design will be prioritised throughout and the process and commitments set out in the Substations Design Principles Statement which will be secured through Requirement 12 ensures a robust and appropriate mechanism to develop and finalise the design of the substations, which will always be within the approved DCO parameters. The changes proposed are considered unnecessary and likely to lead to significant delays in the procurement and delivery of these NSIPs. The requirements are therefore considered to be appropriate and proportionate in the context of the Projects.
38	12(3)	These are in effect the Rochdale Envelope limits for the onshore substation. No justification has been given for these parameters. How can the examining authorities and the local planning authority judge whether from electrical engineering perspective or otherwise whether these parameters are excessive or not.	Tbd - see Written Representations on the Rochdale Envelope/Design. The language in this paragraph needs to be amended so it is clear that National Grid is required to ensure that the engineering design is as efficient as possible (including in respect of size and low levels of noise) and evidence to be should be	See response within ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072). The changes suggested are not appropriate for the face of the DCO as key parts of the substation design and layout will be premised on delivering electrical performance and safety within the parameters set within the DCO, and as required by various design standards set within the electricity industry. The relevant maximum

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
			produced to the satisfaction of the local planning authority to confirm this e.g. the report of an independent consulting engineer.	parameters are secured within the draft DCO and details of the layout, scale and external appearance of the substation must be approved by the relevant planning authority and such details must accord with the ***Substations Design Principles Statement*** (document reference ExA.AS-28.D4.V1) submitted at Deadline 4. The Applicants consider that the current requirements set clear limits based on what has been assessed within the environmental statement whilst allowing effective procurement and delivery of these elements of the Projects within the required timescales. The Substations Design Principles Statement makes provision for independent input (by the Design Council or equivalent) in addition to substantial consultation. Good design will be prioritised throughout and the process and commitments set out in the Substations Design Principles Statement which will be secured through Requirement 12 ensures a robust and appropriate mechanism to develop and finalise the design of the substations, which will always be within the approved DCO parameters. The changes proposed are considered unnecessary and likely to lead to

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
				significant delays in the procurement and delivery of these NSIPs. The requirements are therefore considered to be appropriate and proportionate in the context of the Projects.
39	12(4)	finished ground level is not defined	Finished ground levels must be specified for all the onshore substations, being the same finished ground levels as used for the preparation of visualisations, flood risk assessment etc	Further detail on finished ground level is provided within the ***Deadline 3 Project Update Note*** (REP3-052) and this is supplemented in the ***Substations Design Principles Statement*** (document reference ExA.AS-28.D4.V1) submitted at Deadline 4.
40	12(6) to 12(12)	Paragraphs 12(6) to 12(12) would appear to relate to the National Grid NSIP only	This should be clarified and it will be easier if the Requirements in relation to the National Grid NSIP are put into a separate Part of the Schedule. This will aid clarity when the parts of the DCO which relate to the National Grid works are transferred to National Grid.	The Applicants do not consider these changes to be necessary. The requirements have been drafted to apply to the relevant works to which they relate and they can be discharged in respect of specific stages as appropriate. The Applicants do not consider any changes are required to split requirements out. This would result in unnecessary duplication and may cause confusion.
41	12(6)	This paragraph only refers to work no. 41 which is the national grid substation. However there are substantial National Grid works (see definition of grid connection works) in addition	The reference to the national grid substation should be changed to the grid connection works.	Requirement 12 of the draft DCO requires details of the layout, scale and external appearance of the national grid substation to be approved by the

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
		to the substation, namely three cable sealing end compounds (work number 38), the overhead line pylons realignment work (work number 39), temporary pylons realignment works (work number 40) etc.		relevant planning authority. The Applicants will update this requirement to require details of the cable sealing end compounds comprised within Work No. 38 to be approved by the relevant planning authority prior to commencement as well. Such details will require to be in accordance with the ***Substations Design Principles Statement*** (document reference ExA.AS-28.D4.V1) submitted at Deadline 4. The Applicants do not consider it necessary for the pylons to be captured by this requirement as these are structural elements and it is not considered necessary or appropriate for details to be approved by the relevant planning authority. The maximum height is specified within Requirement 12(12) and the design and colour will be similar to the existing pylons in the area (as stated in paragraph 512 of Chapter 6 of the Environmental Statement (APP-054)).
42	12(6)	Only the "layout, scale and external appearance" of the national grid substation has been referred to. This needs to be extended to all the grid connection works, cable sealing ends etc. There does not appear to be any equivalent to paragraph 12(2) namely that the grid connection works are subject to design principles as is the onshore substation.	Tbd - see Written Representations concerning the Rochdale Envelope/Design. The outline design principle statement needs to be extended to the grid connection works. The language in this paragraph needs to be amended so it is	The Applicants submitted an ***Outline National Grid Substation Design Principles Statement*** (REP1-046) at Deadline 1 and amended Requirement 12(6) of the draft DCO submitted at Deadline 3 to require the details of the layout, scale and external appearance of the national grid substation to accord with the Outline National Grid

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		There is a need to ensure that they are engineered as efficiently as possible to reduce their size and scale.	clear that National Grid is required to ensure that the engineering design is as efficient as possible (including in respect of size and low levels of noise) and evidence to be should be produced to the satisfaction of the local planning authority to confirm this e.g. the report of an independent consulting engineer.	Substation Design Principles Statement. A more comprehensive ***Substations Design Principles Statement*** (document reference ExA.AS-28.D4.V1) which supersedes the Outline National Grid Substation Design Principles Statement has been submitted at Deadline 4 and the draft DCO will be updated to refer instead to this ***Substations Design Principles Statement***. Requirement 12 of the draft DCO will also be amended to require details of the cable sealing end compounds comprised within Work No. 38 to be approved by the relevant planning authority prior to commencement and such details will require to be in accordance with the ***Substations Design Principles Statement***.
43	12(7), (8), (9), (10), (11) and 912)	These are in effect the Rochdale Envelope limits For the grid connection works. No justification has been given for these limits and the local planning authority does not have the expertise to judge whether from electrical engineering perspective these limits are excessive or not.	Tbd - see Written Representations concerning the Rochdale Envelope/Design. The language in this paragraph needs to be amended so it is clear that National Grid is required to ensure that the engineering design is as efficient as possible (including in respect of size and low levels of noise) and evidence to be should be produced to the satisfaction of the	See response within ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072) and response to Row 39 above.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
			local planning authority to confirm this e.g. the report of an independent consulting engineer.	
44	12(8)	The expression "electrical equipment" is too generic given the height of this equipment could be 16 m high.	The types of electrical equipment is to be specified to provide an indication of its scale and appearance.	This is a standard requirement and its purpose is to limit the height of any external electrical equipment. It is not considered necessary to specify individual types of electrical equipment. Furthermore, the electrical equipment referred to forms part of the national grid substation and therefore its design, layout and external appearance will be subject to approval in accordance with Requirement 12(6).
45	12(9)	The size of the fenced compound area only relates to the substation not the other elements of the grid connection works.		Noted.
46	12(10)	There is no description/definition of a cable sealing end compound	Definition of cable sealing end compound to be inserted so that the nature of this structure is known.	See Applicants' response at Row 32.
47	12(12)	It is unclear whether this is higher or lower than the existing pylons	A statement that this is the same height or lower than the existing pylons should be inserted.	The draft DCO states that the maximum height of any additional, relocated or reconstructed overhead line pylons must not exceed 59.2 metres. The pylons adjacent to the substation site are up to 56.1m in height. The Applicants do

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
				not consider it necessary or appropriate to include the suggested statement within the DCO.
48	12(10), (11) and (12)	Further other than for the national grid substation no area is specified for the remainder of the grid connection works.	An area limit should be specified as it is for the national grid substation.	The draft DCO will be updated to include maximum footprints for the cable sealing end compounds comprised within Work No. 38.
49	12(13)	It is unclear whether these are the only construction consolidation sites or other working areas which will be necessary for the project. For example the working area referred to in work number 43 is not listed.	It should be confirmed that this list of construction consolidation sites comprises all the construction working areas which will be required for the project and that there will be no others.	Construction consolidation site is a defined term and requirement 12(13) clearly refers to construction consolidation sites. The Applicants do not consider any changes are required to further clarify this.
50	12(13)	No. justification is given for the size of these construction consolidation sites. In total they add up to 84,070 m². This is 20 acres of land which will be disfigured for years.	An independent report should be provided that these sizes are reasonable	The ***Statement of Reasons*** (REP1-006) provides justification for the land and rights sought within the draft DCO.
51	12(14)	No justification is given for the working widths required for the cable route. This is generally 32 m but could be up to 90m again given the sensitive landscapes over which the cable route will be traversing including the AONB this is unsatisfactory. It should be noted that the working with at landfall could be 90 m wide. In addition it should be remembered this is simply for one project and therefore the cumulative impact with EA2 should be considered. For example the working width for	An independent report should be provided that these widths are reasonable	The ***Statement of Reasons*** (REP1-006) provides justification for the land and rights sought within the draft DCO. With respect to the wider working width to the north of the landfall, this is required to allow the onshore cables to converge from the two transition bays to the 32m onshore cable route width as explained within the Scheme Implementation Report (APP-596).

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		the landfall could be almost 400m wide in an AONB.		
52	12(15)	No justification is given as to whether It is acceptable for a jointing bay to be 55 m from an individual's home, not least given the likely construction impacts and future maintenance.	An independent report should be provided that an individual's home will not be impacted by a jointing bay being this close	See Applicants' response to Written Question 1.4.16 within the ***Applicants' Responses to Examining Authority's Written Questions Volume 6: 1.4 Construction*** (REP1-109).
53	12 **omission** – work no. 34	There do not seem to be any requirements in respect of work no. 34,the permanent access road. Its length is not described nor its width nor any land required either side of the road for drainage, fencing etc. This road was originally described by a SPR as an operational access road and other than its use for the delivery of four abnormal indivisible loads would only be used post construction for operation and maintenance. This comment also applies to the extension of this road as referred to in the last line of work number 38.	A paragraph should be inserted setting out the requirements, including limitations on its use, for this operational access road including its extension. It should be clarified whether these extensions are just for the Scottish power works or are necessary to serve the other projects which will connect to the National Grid connection hub.	As stated in the Applicants' response to Written Question 1.10.21 within the ***Applicants' Responses to Examining Authority's Written Questions Volume 12: 1.10 Landscape and Visual Impact*** (REP1-115), the Applicants have reviewed the concept design of the substation operational access road and confirmed that it can be reduced from up to 8m in width to up to 7m in width and a requirement will be included within the next version of the draft DCO to secure this. Detailed design of the onshore substations and the finalisation of the AIL delivery configuration will allow the final design of the substation operational access road to be completed. Potential remains during the detail design stage to further reduce the width of the substation operational access road. The new permanent access road is designed to meet the need of the authorised projects only. If

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				future projects were to be constructed within the vicinity of the substation site, such projects would be the subject of their own consent applications and would require an assessment of appropriate access routes to serve their projects in accordance with relevant legislation.
	omission meaning of "stage"	The word stage is used in numerous places in Part 3 in the context of stage of various works.	"stage" to be defined	Stage refers to a particular part or phase of the development however in order to provide clarity, a definition of "stage" will be included within the next version of the draft DCO.
	14	Given that a SPR considers that the landscape mitigation will be complete in terms of growth etc after 15 years (this is disputed) there needs to be a requirement that the maintenance and management of the landscape works will be such so that this objective can be achieved.	Wording should be inserted to ensure that the maintenance and management the landscaping works will result in the mitigation being complete after 15 years and the undertaker will retain direct responsibility for this.	Details of landscaping maintenance and management are set out within the ***OLEMS*** (REP3-030) and this is secured by Requirement 14 of the draft DCO. As stated in the updated ***OLEMS*** (REP3-030) the Applicants have committed to undertaking an adaptive planting maintenance scheme (dynamic aftercare) which is intended to de-risk the timely delivery of planting, achieve optimum levels of plant growth and provide greater confidence that effective screening from the tree planted areas will be achieved before the end of the adaptive planting maintenance period.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
54	14	As stated there are two NSIPs which in time will be transferred to at least two separate entities/undertakers. It is unclear how the landscape requirements will apply to both NSIPs and which undertaker has responsibility for complying with them. For example which undertaker is responsible for the ongoing maintenance and management of the landscaping works and the SuDS?	The issue of which undertaker is responsible for the landscape mitigation and SuDs and their maintenance needs to be clarified alternatively all undertakers can have joint and several liability.	The undertaker is responsible for the landscaping maintenance and management. Should any powers or obligations require to be transferred then this will be done in accordance with the provisions of Article 5. Regardless of whether any transfer takes place, the authorised projects will require to be constructed and operated by the relevant undertaker in full accordance with the DCO.
55	15(1)	It is not clear what "relevant recommendations of appropriate British standards "are	Given the importance of the landscape mitigation works these recommendations should be specified	The Applicants consider the reference to British Standards to be appropriate. This text can be found in numerous DCOs including the recent Hornsea Three Offshore Wind Farm Order 2020, Norfolk Vanguard Offshore Wind Farm Order 2020 and Cleve Hill Solar Park Order 2020. As stated within the ***OLEMS*** (REP3-030), the specific standards will be agreed with the relevant planning authority. This will be secured through approval of the Landscape Management Plan in accordance with Requirement 14.
56	15(1)	The time periods of five years and ten years for the re-planting of trees and shrubs seems arbitrary. The reason for planting trees and shrubs is an attempt to mitigate the landscape damage caused by the SPR works and the National Grid works. Accordingly the time period should be for so long as the buildings	All woodland requires management the relevant undertaker should be under a continuing obligation to manage the mitigation woodland et cetera to ensure that is effective for as long as the buildings and other	As stated in the updated ***OLEMS*** (REP3-030) the Applicants have committed to undertaking an adaptive planting maintenance scheme (dynamic aftercare) which is intended to de-risk the timely delivery of planting, achieve optimum levels of plant growth and provide greater confidence that

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
		and structures resulting from the work impact on the landscape.	structures exist. It is worth noting that maintenance of fencing is required for the operational lifetime of the onshore substation – see paragraph 17(4).	effective screening from the tree planted areas will be achieved before the end of the adaptive planting maintenance period.
57	17	Fencing will be a highly visible feature of the NSIPs yet there does not seem to be any statement as to the aesthetic quality of either the permanent or temporary fencing. This is a rural landscape therefore any fencing (including gates and signage) should be as least "industrial" as possible.	A requirement should be inserted as to the high aesthetic quality of fencing which is required	Details of all permanent and temporary fences, walls or other means of enclosure of the onshore works must be approved by the relevant planning authority. The Applicants therefore consider that there appropriate controls in place and the suggested changes are not necessary.
58	17(4)	This paragraph is only stated to apply to the onshore substation not the grid connection works, nor is it clear whether there will be fencing in relation to the permanent operational access road.	The requirements set out in this paragraph should be applied in the same manner to the grid connection works (excluding pylons) and the position in relation to the permanent operational access road clarified.	Requirement 17(4) is intended to apply to both the onshore substation and the national grid substation however this is not clear from the text and therefore this will be updated in the next version of the draft DCO.
59	22	The fact that this paragraph does not apply to pre-construction demolition and site clearance works (given the use of the defined word "commence") demonstrates again why the definition of onshore preparation works is too wide.	-	See Applicants' response at Row 1.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
60	22	The onshore works are being largely conducted in tranquil rural areas close to people's homes impacting their daily lives. Further most of the construction works are taking place next to a quiet rural village. This should be recognised in this paragraph.	At the end of paragraph 22 (one) statement to the following effect should be inserted "the code of construction practice must reflect the fact that construction works are being conducted in a tranquil rural environment, close to rural communities with a number of vulnerable residents and all steps should be taken to minimise their impact on tranquillity, communities and vulnerable residents"	The surrounding environment has been assessed within the Applications and the Applicants do not consider the proposed text to be appropriate or necessary on the face of the draft DCO.
61	23, 24	It would appear that these two paragraphs are identical (paragraphs 23 and 24 (a) and (c) aside) and these comments apply to both. Friston is a quiet and tranquil rural community as us most of the cable route with many retired and elderly people. Accordingly hours which might be considered acceptable in an environment where many of the local population go out to work are not automatically appropriate in this area.	There should be no weekend working as a matter of course. Part of the issue here is not only the noise and disturbance caused by the works themselves but by workers travelling to and from the site. Construction hours should be 08:00 to 16:00 excluding weekends and bank holidays.	As per the drafting of the Requirement, Requirement 23 relates to the transmission works (i.e. Work Nos. 6 to 37) and Requirement 24 relates to the grid connection works (i.e. Work Nos. 34 and 38 to 43). The proposed working hours set out within Requirements 23 and 24 of the draft have been reduced on Saturdays from those originally proposed following feedback received from Section 42 consultation. Working hours are not proposed for Sundays or Bank Holidays. The Applicants must maintain flexibility within the working hours to ensure completion of construction within the delivery timeframes. A

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				reduction in permitted working hours would result in an increase in the overall duration of the works.
62	23, 24(2)	This sub paragraph permits 24 hour, seven day a week working. It is unclear what "essential" means and who determines when work is essential. Clearly SPR or National Grid (or rather their contractors who will be subject to liquidated damages in the event of delay) will always think what they want to do is essential whether or not it is. Further works may become essential because of mismanagement of the construction work. The local community should not be suffering additional disruption simply because the contractors may have to pay liquidated damages or the construction works have been mismanaged. There needs to be a different way of objectively determining the circumstances in which works are so critical or unique that they have to be performed outside of normal working hours. The circumstances listed in sub paragraphs (a) to (e) (which is not an exclusive list) could not all be regarded as essential. For example works should not be started unless they can be completed during normal working hours. It is doubtful whether all of the items listed these subparagraphs could be regarded as essential. In relation to subparagraph (2)(b) no	There needs to be an objective test of when works can be carried out outside of normal working hours. An approach might be to state such works can only be carried out where the works are of a type that cannot be carried out during normal working hours. This will stop out of hours working due to delay/mismanagement to the project. It is understood there are only two abnormal indivisible loads for each onshore substation being the supergrid transformers needed for the substation. Accordingly the number of such deliveries should be specified as no more than two. In circumstances where it is permissible to carry out work outside normal working hours reasonable notice should be given to both the local planning authority and the community. This notice should set out the type of works being carried out, why they cannot be carried out	Where it is necessary to carry out works outwith the specified construction hours, this must be approved by the relevant planning authority in accordance with Requirement 23(3) and 24(3) in advance. As noted in the ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072), prior to construction works, Parish Councils in the relevant area will be contacted (in writing) in advance of the proposed works and ahead of key milestones. This information will include indicative details for timetable of works, a schedule of working hours, the extent of the works, and a contact name, address and telephone number in case of complaint or query.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		reason is given as to why these fitting out works cannot be conducted during normal working hours. In relation to subparagraph (2)(c) our understanding is that there are only two abnormal loads. In relation to subparagraph (2)(d) again it is unclear why this work cannot happen during normal working hours. In relation to subparagraph (2)(e) clearly if there is an emergency then works can be carried out regardless of the time of day provided the reasons for the emergency are disclosed subsequently.	during normal working hours and how long the works will take. If work is required outside normal working hours then if at all possible it should be limited to Saturdays. Sundays and bank holidays should only be used for working in the most exceptional of circumstances. In the case of an emergency details of the emergency should be disclosed to the local planning authority and the affected Parish Council within 7 days of the emergency arising.	
63	25(1) & (3)	This only requires an artificial light emissions management plan to be approved prior to operation. Given that the installation of lighting will be part of the construction works it would be more appropriate for this plan to be agreed part of the design process prior to commencement of the relevant works as at that point changes can be made to mitigate light pollution.	The operational artificial light emissions management plan should be agreed as part of the design process prior to commencement of the relevant works. The relevant works may not be simply work no.30, the onshore substation, and work number 41 the National Grid substation, unless these are the	Requirement 25 will be amended in the next version of the draft DCO to include the cable sealing end compounds comprised within Work No. 38 within the scope of the requirement. The Applicants do not however agree that the requirement should be amended to require the operational artificial light emissions management plan to be submitted for approval prior to commencement as the lighting design is likely to

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		Light pollution is also an ecological concern so it would seem to be illogical to be agreeing and approving an ecological management plan unless there was an understanding of the management of light pollution. This plan needs to cover all elements of the development at Friston not just the onshore substation and the national grid substation.	only works which will require artificial lighting. For example will the cable sealing ends require artificial lighting? All the grid connection works should be subject to the management plan. Also in this plan it needs to be recognised that there is a relationship with ecological mitigation given the impact artificial light on wildlife.	come after the detailed design and layout of the substations has been established.
64	25(2) and (4)	The limitation of compliance with the management plan and its maintenance to the operation of the onshore substation and the national grid substation may not cover the entire period in which the lighting is use. This plan and its maintenance must be implemented and acted upon for as long as the substations and other grid connection works sit in the landscape whether they are operating or not.	The management plan must be in place for as long as there is artificial lighting at the substation site. Further once the onshore substation and the grid connection works cease to be operational there should be no artificial lighting.	Requirement 25(2) and (4) requires the approved operational artificial light emissions management plan to be implemented for the operational period.
65	**Omission** - operational flood risk	There does not appear to be any requirement in respect of managing flood risk (other than during construction - see code of construction practice paragraph 22(2)(b) and the implementation and maintenance of flood risk measures/mitigation. This is unacceptable as there is a serious flood risk. See Written Representations concerning Flood Risk.	Given the serious flood risk at this site there must be a requirement requiring a plan/strategy to mitigate flood risk permanently whether or not to the onshore substation or grid connection works are operational. A detailed flood risk mitigation strategy must	Operational drainage was originally included within the scope of the OLEMS however following discussions with the relevant planning authorities, it was agreed that operational drainage would be covered by a separate requirement and plan. The Applicants therefore submitted an ***Outline Operational Drainage Management Plan*** at

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
			be prepared and be a certified document pursuant to section 36.	Deadline 3 (REP3-046) which has been updated and resubmitted at Deadline 4 (document reference ExA.AS-1.D4.V2) and the draft DCO (REP3-011) has been updated to include a new Requirement 41 which requires the approval of an Operational Drainage Management Plan prior to commencement which must accord with the ***Outline Operational Drainage Management Plan***.
66	26 & 27	The content of the environmental statement relating to operational noise is severely defective - see Written Representations concerning Noise. Accordingly these paragraphs of the DCO are wholly inadequate and fail to address the reality of all the noise impacts at the site, including without limitation all noise impacts at Friston arising from the authorised project not just those from the onshore substation. There needs to be a robust and overarching strategy to address the operational impact of noise throughout the lifetime of the authorised project. This needs to be agreed as part of the design of the onshore substations and grid connection works and by reference to the detailed design to ensure that is what is constructed will meet the requirements in respect of noise. This should also be	tbd	The Applicants dispute the statement that the noise impact assessment is severely defective. The Applicants have undertaken comprehensive background noise monitoring, agreed with the local planning authorities through the Expert Topic Group, and have undertaken a comprehensive noise impact assessment based on current guidance. Through discussions with the supply chain and project designers, the Applicants can confirm a reduction in the noise limits associated with the projects which will be reflected in the next version of the draft DCO (see ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1) submitted at Deadline 4 for further details).

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
		independently verified as should all subsequent monitoring.		This noise limit applies cumulatively to the East Anglia TWO and East Anglia ONE North onshore substations, and will be in force throughout their operational life.
67	28	As noted above onshore works should include onshore preparation works		See Applicants' response at Row 4.
68	29	12 months should be the maximum period. There should also be consultation with the landowner not just the local planning authority	12 months should be expressed to be the maximum period and there should be no ability to agree a longer period. The landowner should not have the ability to prevent reinstatement.	There may be circumstances where it is not appropriate to reinstate within the specified timescales (for example, because the second project (i.e. East Anglia ONE North or East Anglia TWO) is due to commence construction and it would not be appropriate to reinstate a particular area that is subsequently required for the second project). Any deviation from the 12 month period must be approved by the relevant planning authority, therefore appropriate controls are in place within the draft DCO.
69	30	There is no reference to any standards to which the decommissioning should meet. For example is the landscape to be restored to the condition in which it was in prior to the construction works?	tbd	Such details will be specified in the decommissioning plan which must be approved by the relevant planning authority in consultation with the relevant statutory nature conservation body.
70	31	It should be clarified that no such aviation lighting will be required onshore.		The Applicants do not consider this to be appropriate or necessary.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
71	32	Given the serious loss of amenity (particularly at Friston) resulting from closures and diversions to public rights of way, the strategy should be agreed for the entirety of the onshore works before such works commence.	Paragraph 32 to be amended so that the public rights of way strategy is approved prior to commencement of any works related to the authorised project	Full details of a later stage of works may not be known when the details of an earlier stage of works are submitted for approval and it would therefore not be appropriate (and is not necessary) for this requirement to be amended to require the strategy to be submitted for all stages prior to commencement of the first stage of works. However the Outline Public Rights of Way Strategy (REP3-024) provides outline details of the public rights of way to be stopped up throughout the entire onshore development area and the final Public Rights of Way Strategy must accord with this outline document.
72	33	This plan should take into account the proximity of Sizewell A and Sizewell B nuclear power stations	tbd	Any emergency response plan prepared by the Applicants will take into account the particular risks and dangers associated with the development area. This requirement is currently under discussion with the relevant authorities.
73	37	Given the possible rate of coastal erosion, the 24/25 year period is far too long.	These reports should be prepared every five years	This requirement is set at a period of 24 years but before the expiration of a period of 25 years following completion of construction, to reflect a typical operational life of an offshore windfarm. It is not designed to provide a periodic check on

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	Issue	Suggested Change	
				coastal erosion, rather to provide a 'check-point' at year 24 in order to appraise the need for any remedial works to be undertaken by the Applicants. The design of the HDD at the landfall, including the positioning of the transition bays, allows for natural coastal erosion as presented within Chapter 4 and Appendix 4.6 (Coastal Processes and Landfall Site Selection) of the environmental statement. The Applicants therefore do not consider it to be necessary or appropriate for a report to be prepared every five years.
74	38	As noted above, this paragraph relates to the issue that the National Grid connection hub, which is designed to support at least two substations, is consented four times as result of there being a separate DCO for each of EA1N and EA2 and because it is included in both the Scottish Power NSIP and the National Grid NSIP. First the DCO needs to contain provisions whereby the size of the National Grid connection hub is reduced in size if only one of EA1N and EA2 is constructed. Second the wording proposed is far too vague. A decision should be made as to whether the National Grid connection hub is	-	The national grid infrastructure is designed to meet the need of the authorised projects only. Requirement 38 states that where any part of the grid connection works are being or have been constructed under another development consent order, that part of the grid connection works must not be constructed under this Order. The Applicants therefore consider that the requirement provides the necessary control to ensure that the national grid infrastructure is not constructed more than once.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
		being constructed under the EA1N DCO or the EA2 DCO. It is highly unsatisfactory if some unspecified parts are built under one DCO and other unspecified parts are built under the other DCO. No doubt the rights under the DCO in respect of the National Grid connection hub will be transferred to and exercised by National Grid and in terms enforcement there needs to be clarity as to under which DCO National Grid has built its connection hub.		
75	39	In addition to the requirement for written approval the following matters must be addressed. First any approval and any documents, plans et cetera submitted for approval must be in accordance with the principles and assessments set out in the Environmental Statement. Second any approval by the relevant planning authority shall only be valid if there has been consultation with the Parish Councils affected by the subject matter of the approvals	tbd	The draft DCO contains a number of parameters relating to what has been assessed within the environmental statement which must be complied with thereby controlling what can be constructed in accordance with the DCO. In relation to the details to be approved under the requirements before all or part of the Projects can be implemented, in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, the relevant decision maker cannot grant approval unless, where relevant, the subject matter of that application for approval has been the subject of environmental impact assessment. Further controls within the DCO are therefore not necessary or appropriate.

ID	Written Representation			Applicants' Comments
	EA1N/ EA2 DCO provision	**Issue**	**Suggested Change**	
				With respect to consultation with parish councils, please see the Applicants' response at Row 35 above.

2.3 Safety

Table 2.4 Applicants Comments on (REP1–363) Safety

ID	Written Representation	Applicants' Comments
Summary		
1	Section 4.11 (Safety) of the Overarching National Policy Statement for Energy (EN-1) addresses the subject of Safety and makes clear that the Applicant should consult with the Health and Safety Executive on matters of Safety. Within the Applicant's DCO submission no evidence has been presented to show that there has been any consultation regarding overall safety during the Construction and Operational Phases of the Project. This section of the Written Representation deals with perceived shortcomings in the Applicant's Environmental Impact Assessment (EIA).	The Applicants have undertaken consultation with the Health and Safety Executive (HSE) at both Section 42 (Phase 4 Public Consultation) and Section 56, where the full Application was submitted to the Planning Inspectorate. At Section 42 the HSE made no comments on electrical safety or explosives. Furthermore the HSE advised that there were currently no major accident hazard sites or pipelines within the onshore development area. The HSE provided commentary in relation to Hazardous Substances Consent and its application, which is not applicable to the Projects. At Section 56 the HSE made no comments.
General		
2	EN-1 acknowledges that some energy infrastructure will be subject to Control of Major Accident Hazards (COMAH) regulations, and addresses the matter primarily in terms of hazardous materials. This energy infrastructure is somewhat different in that whilst stocks of hazardous materials are low there remains an ever present safety concern regarding the large quantity of power being transmitted in cables from the offshore substations to Friston. The risks related to accidental snagging of cables laid on the sea bed is addressed by the Applicant, but the consideration of risks to onshore cables and substation(s) appears scant. Here, the preparation of a 'Credible Accident'	The Control Of Major Accident Hazards (COMAH) Regulations 2015 are applicable to facilities with inventories of defined Hazardous Substances above identified thresholds. These hazards do not exist to the required levels in the proposed onshore substations. Construction (Design and Management) Regulations 2015 require the Applicants to ensure all hazards associated with the design are identified and suitably mitigated. Continual design risk assessment shall be conducted throughout the design cycle of the onshore cable system.

ID	Written Representation	Applicants' Comments
	assessment or a Failure Modes and Effects Analysis would have been of value to show that the Applicant had fully considered the risk to safety arising from equipment failure, fire, lightning strike, malicious intervention, etc.	This design risk assessment takes into account all the relevant consequences and hazards to ensure that the overall risk from the design is suitably mitigated. At all times when there is a risk of exposure to the system, a safe system of work, which takes cognisance of the relevant electrical and mechanical safety rules, shall be applied to ensure that the risk from High Voltage equipment is mitigated. This includes defined safety clearances for buried cables/overhead lines in line with the relevant HSE guidance documents.
3	It is not the purpose of this submission to comment upon the safety issues relating to offshore infrastructure nor to comment upon on-site work practices as adopted by the Applicant: these should remain a matter of exchange between the Health & Safety Executive and the Applicant. The remainder of this representation note is thus confined to an appraisal of the Applicant's approach to safety, as it impinges on the local residents living in the development area, and is restricted to the Construction and Operational Phases of the Project.	Noted
Construction Phase		
4	By any measure, the build of the EA1(N) and EA2 wind farms plus the onshore cable system and substations (including the National Grid infrastructure/connectionhub) is a large undertaking, requiring several thousand man-years of work to complete. Much of this work will require the human operative to work in close proximity to heavy machinery, both onshore and offshore, and clearly Health & Safety of the workforce is paramount.	Noted

ID	Written Representation	Applicants' Comments
5	This a 'roads-based' development, in that all materiel enters and leaves the construction site(s) via the public road network, which from the A12 totals about 24 km in length. Within the extended site, construction traffic will cross and re-cross the public road system and public Rights of Way, and thus there remains for the period of the build, an existential threat to the safety of local residents. It should be noted that all public roads in the development area are single carriageway, and except in a few places, lack adjacent footpaths. These roads are shared by motorists, goods vehicles, pedestrians, horse riders and cyclists. They are wholly unsuited for HGVs of the type needed to support this development. Residents' safety is thus dependent on careful and considerate behaviour by the Applicant's workforce and that of its subcontractors, which is and will remain so for the period of construction, outside the control of local residents. The Applicant has produced an Outline Construction Traffic Management Plan, [Volume 8.9 refers PINS APP-586], which advocates a somewhat convoluted plan to regulate HGVs, with identifier plates, but there seems to be no regulation of the lower class of vehicles, such as Light Goods Vehicles (LGVs), Light Commercial Vehicles (LCVs) and site worker vehicles. See also Written Representation concerning Transport & Traffic.	***Section 2.2.3*** of the ***Outline Construction Traffic Management Plan*** (OCTMP) (REP3-032) includes details of measures to ensure that HGVs use the agreed routes. In summary measures include: advanced signing, providing drivers with delivery instructions and ensuring the Projects' traffic is distinguishable from other traffic. ***Section 4*** provides details of how this will be monitored and enforced. Prior to commencement of the onshore construction of the Projects a final detailed CTMP will be produced in accordance with the OCTMP as secured by Requirement 28 of the ***draft DCO*** (APP-023). The CTMP will then have to be implemented. Section 2 of the ***Outline Travel Plan*** (REP3-036) includes the details on the control of Light Goods Vehicle Movements.
6	Chapter 26 Traffic and Transport of the ES [PINS APP-074] reference 6.1.26) assessed the impact of site construction traffic, which included: pedestrian amenity, severance, road safety and driver delay following 'embedded mitigation would not be "significant". From a residents' perspective 'zero impact' would have been a better objective. In short, the safety of residents in the environment of increased traffic flow will be down to careful	The ***Outline CTMP*** (REP3-032) and the ***Outline Travel Plan*** (REP3-036) submitted at Deadline 3 presents the requirements and standards that will be incorporated into the final CTMP and Travel Plan to manage the Projects' construction traffic to ensure there is no significant adverse impact on road users.

ID	Written Representation	Applicants' Comments
	and considerate behaviour of the Applicant's workforce, which is a largely a matter beyond their immediate control. The Applicant should thus bring forward a Traffic Management plan that will ensure that the safety of all local residents is not adversely impacted by traffic engaged in any capacity regarding construction of the substations and onshore cable infrastructure.	
Operational Phase		
General		
7	Additionally, in the shorter term there would appear to be the risk of ingress of moisture to the cable route junction boxes along the cable route and the cable sealing ends at the interface with the overhead pylons. It appears that no consideration has been given to the need for submersible pumps. If so, then reasons should be presented as to why these are considered unnecessary.	The cable system is fully sealed against water ingress therefore no pumps are required as the system is designed to be operative in soils with high moisture content. The subsea cable is of the same design but with the addition of armour for mechanical protection.
8	The Project Description, Chapter 6, of the Environmental Statement [APP-054] contains just two paragraphs (paras 576 & 577) that directly address risks associated with the onshore cables and substations. This seems a wholly inadequate response given the importance of these parts of the infrastructure.	The Applicants consider that paragraphs 576 and 577 are accurate and have provided further information in terms of Health and Safety procedures and processes in this response.
Fire and Explosion Risk		
9	All electrical transmission systems generate heat, particularly where junctions and switches are concerned. Paragraph 576 informs the reader that the cable runs include a system to detect insulation failure, but gives no indication of the likely response	The cable system will include Distributed Temperature Sensing (DTS) and as part of this system early warning of faults can be indicated prior to failure. HVAC cable systems are designed to fault to earth safely.

ID	Written Representation	Applicants' Comments
	time. Is this sufficiently fast to prevent catastrophic failure? Though omitted in SPR's submission, most large transformers also include instrumentation to detect overheating.	
10	High power items like the super-grid transformers rely upon the circulation of cooling liquids, usually involving a flammable oil and normally stored in an overhead reservoir. Across the world, fire and explosion at substations is not unknown, and a leading supplier of substation components estimates the risk of a transformer fire to be slightly less than 1% for the lifetime of the equipment: this is small, but not negligible. A failure in a 400 MVA transformer winding leading to a short circuit lasting perhaps just one tenth of a second could result in an arc-blast and theoretically, dump about the same energy as detonating 10 kilogrammes of high explosive[5].	Detailed technical analysis from across the industry has identified that the probability of a significant fault leading to fire/explosion of a SGT/Shunt Reactor is very low. Nevertheless, the Applicants, through design risk assessment, shall rigorously assess hazards, risks and any mentioned consequences in order to ensure that overall risk from the design is suitably mitigated.
11	The substations will be sited close to residential property and adjacent to woodland. The risk of fire, smoke and toxic fumes, however small is a matter of concern to nearby residents. In Paragraph 577 of the Project Description [APP-054] [6.1.6 Chapter 6] the Applicant acknowledges that substation fires can create a local hazard, but fails to outline what measures would be needed in the event of such a fire. The nearest fire stations are in Leiston, Saxmundham and Aldeburgh: these rely upon volunteers. A description of fire prevention/mitigation measures adopted for the EA1 substation at Bramford would have aided comprehension of the Applicant's proposals for the Friston site.	Current fire mitigation systems for substations focus on preventing harm to personnel while maintaining the ability of the asset to perform its required function effectively and efficiently. Additionally, prevention of the incident is prioritised over mitigation. The fire mitigation measures will include appropriate passive and active mitigation strategies.

[5] TNT has a specific thermal energy content (stoichiometric conditions) of 4.184 MJ/kg

ID	Written Representation	Applicants' Comments
12	In various parts of the DCO submission, the Applicant notes the intention for the substations to be unmanned, but that there will be a system of emergency lighting. No explanation is supplied regarding what emergencies are considered.	Reference to emergency lighting for the onshore substations is not stated within the Applications. Operational lighting requirements at the onshore substation site would entail: • Security lighting around the perimeter fence of the compound, to allow CCTV coverage, possibly motion sensitive; • Car park lighting – as per standard car park lighting, possibly motion sensitive; and • Repair / maintenance – task related flood lighting will be necessary.
13	There is no evidence presented within the Applicant's documentation of the intention to keep a reserve pond of water set aside for fire suppression. Generally, water and high voltages are kept separate, but for those parts where fire suppression is appropriate, some limited store, such as kept at minor airfields would seem sensible. Other substations, e.g. Rampion, have included a 120000 litre pond for fire suppression purposes. It may be that the Applicant is relying on an adequate supply of suitable water being always available in the proposed SUDS ponds needed to mitigate the risk of flooding. If so, a suitable footnote should have been included in the Project Description. In prolonged dry periods, such ponds risk drying out.	There is no intention to utilise the SUDs pond as a firewater reservoir.
Sulphur Hexafluoride (SF6) Gas		
14	The Applicant envisages the use of Gas Insulated Switch Gear at both EA1(N) and EA2 substations, and current design practice relies on sulphur hexafluoride (SF6), a heavy and suffocating,	SF6 itself is extremely chemically stable, non-flammable and highly electronegative, with an excellent dielectric property of approximately 2.5 times more than air. Therefore, it is commonly used in electrical

ID	Written Representation	Applicants' Comments
	(but non-toxic) gas. It is man-made and also a potent 'greenhouse' gas. The use of SF6 use is being actively discouraged at international levels. This observation was made by Rt Hon Member for Suffolk Coastal, Thérèse Coffey, at the recent virtual Open Floor Hearings. The DCO submission does not seem to include any statement regarding the management of accidental leaks.	switchgear (circuit breakers), transformers and substations as an electrical insulation, arc quenching (breaking) and cooling medium. The insulation properties of SF6 are important to ensure the safe operation of electrical equipment. SF6-free switchgear does not currently exist for voltage levels above 132kV. It may be several years before an alternative is developed and available to be procured. For the onshore substations, Gas Insulated Switchgear (GIS) will be used, with SF6 likely as the insulating and arc quenching medium as currently permitted. However, should legislation associated with the use of SF6 change, the Applicants will ensure that this is reflected within the design of relevant infrastructure. In electrical switchgear, the SF6 gas is contained in gas-tight compartments, greatly minimising leakage. In the unlikely event of leakage, and in line with regulatory requirements, leak detection systems shall be in place where required ,and leak tests shall be conducted at the set intervals. In the event that a leak is detected, this would be rectified as soon as practicable.. Any leaks to the atmosphere would be managed as an environmental incident and investigated and reported in a systematic manner, employing root cause analysis and documenting measures to remedy and prevent a reoccurrence. The Iberdrola Offshore Environmental Management System applies a process for investigating and reporting environmental incidents.. The process for managing and reporting incidents involving accidental releases of SF6 gas shall be detailed in project specific plans and procedures. These project procedures shall cover all applicable legal requirements with regards to the management of SF6 gas.

ID	Written Representation	Applicants' Comments
Conclusion		
15	The Project Description [APP-054] Paragraph 584 concludes with the statement: "….the risk of major accidents and/or disasters occurring associated with any aspect of the project during construction, operation and decommissioning phases is negligible… " No numerical or anecdotal evidence is supplied to substantiate this claim, and it is recommended that the Examination Panel seek a peer review of the design of the onshore substation(s) including that of the NG substation and associated HV cable system, by experts properly qualified to assess high voltage electricity transmission systems.	The lack of material inventories of dangerous substances (COMAH 2015) either combustible, toxic, radioactive or otherwise limits the impact of any incident to the immediate vicinity and societal risk is considerably lower than for facilities where dangerous substances are present. Design risk assessments shall be conducted throughout the design cycle to ensure that all hazards and associated risks, whether related to construction, operation or decommissioning, are suitably mitigated.

2.4 Noise

Table 2.5 Applicants Comments on (REP1-358) Noise

ID	Written Representation	Applicants' Comments
Operational Noise Impact		
01	1. The project comprises 2 x 10 acre SPR substations, equipment up to 18m high + NGET substation (similar size) + multiple sealing end compounds and a new pylon all very close to a long-stablished village with a Grade 2* parish church and graveyard, and some residential property within 250m of the substations themselves (Figure 1 below).	Since submission of the Applications, the Applicants have revised the onshore substation footprints, the height of the buildings and the external equipment and the sound power levels of key plant. These changes are described further in the ***Project Update Note*** (REP2-007) submitted at Deadline 2, the ***Deadline 3 Project Update Note*** (REP3-052), and the ***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1) and the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1).
02	2. All these will cause noise pollution in what is otherwise an exceptionally quiet rural location, and has been for hundreds of years, and this is a cause of huge concern to the locality. SASES has an Acoustics expert witness who will be representing us at the relevant ISH. The following comments, therefore, will be of a more general nature.	Through ongoing engagement with the supply chain and designers regarding the mitigation of noise emissions from operational substation equipment, as described in the ***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1) and the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1), a reduction of the maximum received operational noise rating levels can be achieved. This will be secured through an update to the wording of Requirements 26 and 27 of the ***draft DCO*** (REP3-011). Specifically, the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 (Little Moor Farm) being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is

ID	Written Representation	Applicants' Comments
		31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes. The addition of another noise sensitive location within the ***draft DCO*** ensures the thorough regulation of noise emissions from the onshore substations by establishing a triangulation of monitoring locations at the three closest properties to the onshore substations to the north (SSR3), to the south east (SSR2) and to the south west (SSR5 NEW).
03	3. The substation design is understood (Ref. 6) to be a copy of the East Anglia One substation at Bramford (which I hope the Examiners will visit and listen to – it's on SASES requested visit list). But SPR are suggesting that less demanding Impact criteria should apply to the Friston site compared with the Bramford one. Why should Friston residents be treated differently?	The Applicants note that the National Grid substation at Bramford includes super grid transformers, which emit audible noise. There are no super grid transformers proposed for the National Grid substation at Friston. The Applicants have assigned residential properties a 'medium' sensitivity as presented in ***Table 25.21*** of ***Chapter 25 Noise and Vibration*** (APP-073). This is a standard sensitivity rating for onshore residential receptors, having been adopted for numerous other recent offshore wind farm projects e.g. Hornsea 3, Thanet and the Dogger Bank projects. High sensitivity receptors are receptors such as operating theatres or high dependency units) or care homes at night (***Table 25.21*** of ***Chapter 25 Noise and Vibration***). As such, the Applicants consider that assigning residential receptors a 'medium' sensitivity is appropriate. As per the ***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1) and the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1), the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 (Little Moor Farm) being
04	4. Substations hum (we know that from day to day experience) – and SPR accepted at EA1 DCO submission that the EA1 substation would hum (Ref 1 page 19 para 40), and it does seem to. This is known as 'Tonality'. And SPR accepted that Residential property should be regarded as Highly Sensitive to noise from the substation (Ref 1 page 32). Quite understandable given the level of irritation and associated health damage that substation noise can cause to humans, and animals.	
05	5. But the DCO documentation for EA1N and EA2 doesn't accept either of these criteria. SPR deny that their Friston substations will be 'Tonal' (Ref 2 paras 110 and 113) despite being an enlarged version of the EA1 Design, and they regard Friston residents as having only Medium Sensitivity (Ref 3) compared with those in the region of Bramford, despite the presence of many elderly residents, a number of whom are housebound.	

ID	Written Representation	Applicants' Comments
06	6. The impact of these criteria downgrades appears to allow SPR to state that there will be Negligible Adverse Impact due to Noise from their EA1N and EA2 substations. But if the EA1 criteria are substituted then using the same approach the Impact level appears to no longer be Negligible in some locations.	included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes. With regard to tonality, the Applicants refer to their response provided at ID 12 of ***section 2.2*** of ***Applicants' Comments on the Councils' Deadline 3 Submissions*** (ExA.AS-18.D4.V1). Irrespective of whether tonality or other such acoustic corrections are identified or not, as per the wording of Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011), the Applicants must ensure that the operation of the onshore substations does not exceed the maximum operational noise rating limits at the specified receptors.
07	7. In addition it is noted that the Night-Time Background Noise levels shown in the DCO documentation (Ref 4) are significantly higher at several locations than those shown and commented on in the PEIR documentation (Ref. 5), with SSR2 being substantially higher. No justification has been found in the DCO documentation for these changes, and had they not been made then additional other locations would be likely to be rated as having Impacts greater than the Negligible Impact that SPR claim.	For the PEIR, the analysis of background noise at each monitoring location was undertaken using a 15-minute integration period. Following PEIR, the analysis of background noise measurement data was undertaken again using a 5-minute integration period. As such, three times more data were analysed for the background levels presented within the ES than were analysed for the PEIR. Analysis of the background noise levels at a 5-minute integration period is considered to provide a more representative and accurate background noise level, as it reduces the 'smoothing' effect of the 15-minute analysis. The Applicants note that the average night-time baseline noise presented for SSR2 within the PEIR is 31.2dB, whilst in the ES chapter it is presented as 31.5dB. However, the modal range of night-time noise presented within the PEIR at SSR2 was >27.0, <28.0dB and within the ES chapter as >26.5, <27.5dB. In the case of the average night-time noise levels presented, the Applicants do not consider this represents a significant increase.

ID	Written Representation	Applicants' Comments
		Average night-time background noise levels saw increases of no more than 0.3dB (at any monitoring location) between the PEIR and the ES. The modal night-time background noise levels at SSR9 changed the most between PEIR and the ES, reducing from >27.0, <28.0dB to >17.5, <18.5dB. As previously stated, the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes.
08	8. Also it is noted from other DCO applications that the noise levels of equipment may not be worst case, e.g. STATCOMS may only have been assessed at 50% load. It is essential that all equipment noise levels and assessments quoted are complete, worst case and properly authenticated, including the provision of "third octave" data which is understood to be required to reach conclusions about 'Tonality'. This does not currently seem to be the case and should be grounds for refusing the application as in this case the noise impacts cannot be relied on.	Equipment has varying rating levels according to the need of the site. It is not considered appropriate to compare source data levels across various different sites without knowing their required outputs/inputs. Regarding tonality the Applicants note that 1/3 Octave Band data is required for a thorough assessment of audible tones in sounds according to Annex C of BS4142:2014+A1:2019, which will only be available during the detailed design stage. With regard to tonality, the Applicants refer to their response provided at ID 12 of ***section 2.2*** of ***Applicants' Comments on the Councils' Deadline 3 Submissions*** (ExA.AS-18.D4.V1). Irrespective of whether tonality or other such acoustic corrections are identified or not, as per the wording of Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011), the Applicants must ensure that the operation of the onshore substations does not exceed the maximum operational noise rating limits at the specified receptors.

ID	Written Representation	Applicants' Comments
		At Deadline 4, the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes.
09	9. Therefore the Examiners are asked to closely scrutinise all the noise claims made by SPR, as it is clear that even modest changes to, or omissions from, criteria can have a disproportionate effect on any Adverse Impact results and therefore site acceptability. And in any case, surely a conservative approach should be adopted, especially to a community which is largely retired with many residents already in less than good health.	No comments.
10	10. A further concern is the proposal in the DCO that a 34dBA rating level be used, despite the site being a tranquil location, and that only at two locations (SSR2 and SSR5 NEW), when ALL Friston residential properties should be entitled to the same protection, given that sound levels may be highly localised due to reflections and ground contours. And whatever criteria are chosen they must be fully tested before equipment is allowed to 'go live' We are aware of another site (in Scotland) where noise was shown to have a significant impact after commissioning but the transmission operator is understood to have refused to allow the equipment to be powered down for remediation. This would be unacceptable.	Through ongoing engagement with the supply chain and designers regarding the mitigation of noise emissions from operational substation equipment, as described in the ***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1), a reduction of the maximum received operational noise rating levels can be achieved. The Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes.

ID	Written Representation	Applicants' Comments
		The addition of another noise sensitive location within the ***draft DCO*** ensures the thorough regulation of noise emissions from the onshore substations by establishing a triangulation of monitoring locations at the three closest properties to the onshore substations to the north (SSR3), to the south east (SSR2) and to the south west (SSR5 NEW). Given that noise dissipates over distance from source (such that receptors increasingly further afield will receive correspondingly lower noise levels until it is undetectable), this is considered a robust approach to mitigating noise at all residential properties within the vicinity of the onshore substations. Revised noise modelling has been undertaken to reflect the design changes previously mentioned and is presented within the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1). The ***Noise Modelling Clarification Note*** presents an assessment of operation phase noise impacts upon users of the local Public Right of Way (PRoW) network and associated noise contour mapping at 1.5m AOD. These contours illustrate that, under normal operating conditions, noise levels emanating from the operation of the onshore substations are predominantly predicted to be less than 25.5dBA south of Church Road.
11	11. A final concern is that atmospheric effects, ground-borne noise, and equipment aging are all known to seriously affect perceived noise levels at receptors. These represent yet further concerns that the currently proposed noise emission levels are entirely unacceptable and that the site chosen is unsuitable for the proposed development and that Consent should therefore **be refused**.	The Applicants consider SASES comment at ID 11 relates to atmospheric effects such as air absorption rather than specifically in relation to temperature inversions and other meteorological conditions, which are address at ID 36. Atmospheric effects are limited in their range, beyond 300m of a source they should not be considered as other sources (i.e. influence from other natural and anthropogenic noise sources) will become more significant at those locations.

ID	Written Representation	Applicants' Comments
		The final design of the onshore substations will be undertaken post-consent during the detailed design stage, which will take ground borne noise into account. The Applicants note that the maximum operational noise rating levels stated within the ***draft DCO*** (REP3-011) apply to the full operational lifetime of the Projects. As such, the maximum operational noise rating level must be adhered to irrespective of the age of the equipment.
Rupert Taylor Submission on the Topic of Noise		
SUMMARY **Operation**		
12	1.1 An important feature of these two applications is that two similar substations will be operated near to each other, and the principal sources of noise in each will be transformers and associated equipment in which the acoustic source is the second harmonic of the line frequency. Noise from transformers and many of the other items associated with them is concentrated at the frequency of 100 Hz, and when two sounds of predominantly single frequency are combined, constructive interference occurs in locations where two or more sources are in phase. In such circumstances it is the sound pressures, not the sound intensities that have to be added which results in an increase in noise level of several dB above the result of applying conventional methods for sound sources that are not predominantly single-frequency. The pressure sum of two similar sources results in an increase of 6dB as opposed to 3dB for sources with a random phase relationship which is the commonly used assumption in noise prediction methods.	This is not a phenomenon that is just a feature of electrical noise sources as suggested by SASES. The potential for equipment to constructively or destructively affect each other's waveforms is related directly to their location with respect to the receptors around them. The effect of the interference or phasing has the potential to affect the noise level depending on whether the waveforms are in phase or out of phase with each other. Waveform phasing of this nature is considered highly unlikely to occur. To ensure this is the case, once specific details of the layout and equipment are known, further consideration will be given at the detailed design stage as secured in 12 of the ***draft DCO*** (REP3-011). Irrespective of any acoustic corrections resulting from constructive interference between the onshore substations, the Projects must comply with the cumulative maximum operational noise rating limit at the

ID	Written Representation	Applicants' Comments
		specified noise sensitive locations stated within the ***draft DCO*** (REP3-011).
13	1.2 The ES conclusions, from which the noise limit in the draft DCO has been derived, are based on a background sound level of 29 dBA. It is shown in the Baseline Noise Survey Report that the night-time background is in the low 20s on many occasions and was measured at less than 17 dBA. and on those occasions the tonal noise emitted by transformers will be clearly perceptible, attracting a penalty for tonality of +6dB. The ES also shows, using the same statistical methodology, a background noise level of 25 dBA at one of the closest receptors in the Friston area.	Background noise levels were determined by detailed statistical analysis of the measured levels at the individual noise monitoring locations. From this analysis, graphical distribution plots, calculations of the standard deviation, mode and median baseline noise level at each of the baseline noise survey measurement positions were determined. All statistical parameters were considered and reviewed alongside the percentage of sampling around the mode / mean noise levels. There is not a 'one-size-fits-all' method of determining background noise levels. No requirement is set out in BS4142:2014 +A1:2019 stipulating the use of a single statistical parameter in the determination of background noise level at each location. The methodology of the statistical analysis has been undertaken following the guidance in BS4142:2014 +A1:2019, which is applicable for all of the receptor locations. This approach is in accordance with the procedure referred to in BS4142:2014 +A1:2019. The Applicants have noted an typographical error within ***Chapter 25*** (APP-073) and ***Appendix 25.2*** of the ES (APP-523), in which the background noise level at SSR3 has been presented as 30dBA. This should be 26.1dBA, resulting in an associated impact magnitude of minor and assessed impact significance of minor for SSR3 (as presented within ***Table 11*** of the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1)). At Deadline 4, the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of

ID	Written Representation	Applicants' Comments
		SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes. These maximum operational noise rating limits are considered to be low when compared to the operational rating levels adopted for other similar Nationally Significant Infrastructure Projects (NSIPs), as referred to within ***section 4.5*** of the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1).
14	1.3 The combined rating level at the specified locations, predicted in the ES for EA1N and EA2 as 30.1 dB(A), will be in excess of the DCO limit of 34 dB(A) with the inclusion of a 6 dB tonal character correction. Where the background is 25 dB(A) there will be a difference between the rating level and the background sound level of more than +10 dB. The effect of constructive interference would result in a further increase in actual sound level.	The modelled combined noise levels at the individual noise sensitive receptors do not exceed the maximum operational noise rating limit as set out in Requirement 27 the ***draft DCO*** (REP3-011), as demonstrated by the modelling presented within the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1). Regarding tonality the Applicants note that 1/3 Octave Band data is required for a thorough assessment of audible tones in sounds according to Annex C of BS4142:2014+A1:2019, which will only be available at the detailed design stage. Where the requisite data is supplied, the Applicants will review the available 1/3 Octave Band data for tonality. As noted earlier, irrespective of any acoustic corrections, the Projects must comply with the cumulative maximum operational noise rating limit at the specified noise sensitive locations stated within the ***draft DCO*** (REP3-011).
15	1.4 The ES predictions make the assumption that mitigation will be included in the form of noise enclosures, particularly for the main transformers, which assumes that they have very high sound insulation performance. Further mitigation, for example enclosure of other sources	Ongoing engagement with the supply chain and designers has identified further mitigation of noise emissions from operational substation equipment including the STATCOM Air Coolers, STATCOM Air Core Reactors and STATCOM Filter Capacitor Banks, as described in the

ID	Written Representation	Applicants' Comments
	which predominate over the enclosed transformers, may be difficult to achieve.	***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1). As-built mitigation will be identified during the detailed design stage and will be designed to achieve comply with the maximum operational noise rating limit specified within the DCO.
16	1.5 Even if the excess above background is reduced by even further mitigation, to achieve compliance with the DCO limit of 34 dB(A), then in locations where the background level is 25 dB(A) or less, the difference between the rating level and the background sound level +9 dB or more.	The results of the noise modelling as seen in Tables 9 to 11 in the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1) submitted at Deadline 4 show that for Scenario C (cumulative operation of the Projects), under normal operating conditions, the highest increase over the measured background noise level is predicted to be no more than 3dBA (at SSR3). Under Scenario C, the model outputs show that the predicted noise level contribution from the onshore substation at SSR2 and SSR5 NEW are below the measured background noise levels. The Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes. As per the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1), the revised maximum operational phase noise rating limits for the specified receptors is below that adopted for similar projects yet allows the necessary headroom to accommodate operational variability in noise emissions from the onshore substations.
17	1.6 A difference between the rating level and the background sound level of around +10 dB or more is "an indication of a significant adverse impact"	The predicted cumulative impact of the operation of both Projects is no greater than 3dBA as reported in the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1). This is below the 10dB

ID	Written Representation	Applicants' Comments
	according to BS 4142. EN-1 at 5.11.9 states that significant adverse impacts on health or quality of life should be avoided.	cited by SASES' acoustic consultant and below the +5dB cited in BS4142:2014+A1:2019 as being an indication of an adverse impact. It is also noted that, under Scenario C, the model outputs show that the predicted noise level contribution from the onshore substation at SSR2 and SSR5 NEW are below the measured background noise levels.
18	1.7 The proposals would be in contravention of the requirements of EN-1.	The Applicants do not agree with this statement as the predicted cumulative operation of both Projects (considered to be worst case) is below 5dB (as reported in the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1)), which is defined in BS4142:2014+A1:2019 as being an indication of an adverse impact. Significant adverse impacts will therefore not occur, and the requirements of EN-1 are met.
Construction		
19	1.8 The outline Code of Construction Practice (CoCP) is deficient, and this is of great importance since Requirement 22 states that the full CoCP for which approval must be obtained from the local authority must accord with the outline code of construction practice. Consequently it is necessary that matters which are essential for inclusion in the final CoCP should be foreseen in the outline CoCP.	An updated ***Outline CoCP*** was submitted to the Examination at Deadline 3 (REP3-022), which sets out the control measures to be adopted during the construction phase with regard to mitigating construction noise. The Applicants refer to their comments below in response to the following specific comments raised by SASES.
20	1.9 The applicant has stated that the main objectives of the CoCP with regard to managing construction noise are to "Minimise noise and vibration impacts on nearby residents and other sensitive receptors to acceptable levels; and Comply with relevant legislation, requirements, standards and best practice relating to construction noise". As explained below the applicant's stated position, in the Environmental Statement (ES), on what are acceptable levels is based on an erroneous application of the principal standard for construction noise. There is no commitment in the CoCP to	The Applicants do not agree with the statement that the assessment levels set out in the ES represent an erroneous application of the guidelines. Best practice mitigation measures, based upon best practicable means, are detailed within ***section 9*** of ***Outline CoCP*** (REP3-022). The Applicants will ensure compliance with relevant legislation, requirements, standards and best practice relating to construction noise. Prior to any stage of the onshore works, a Construction Phase Noise and Vibration Management Plan must be

ID	Written Representation	Applicants' Comments
	employ the best practicable means (BPM) to minimise noise and no commitment to apply for consents under the provision of Section 61 of the Control of Pollution Act 1974 (CoPA). Because of the effective disapplication of Section 82(1) of the Environmental Protection Act 1990(c) (summary proceedings by person aggrieved by statutory nuisance) by 3(7) of each DCO, a person affected by construction noise, in the absence of the use of S60 of CoPA by the local authority, or action by the LA for breach of a CoCP approved pursuant to a requirement of the DCO, has no recourse other than action in Common Law in the High Court The draft CoCP is seriously deficient as set out below. The Construction noise assessment in the Environmental Statement (ES) contains errors and misstatements which are explained below. Consequently there is no adequate means of achieving mitigation of the effects of construction noise on people.	submitted to and approved by the relevant planning authority as part of the final CoCP. This is secured under Requirement 22(2)(c) of the ***draft DCO*** (REP3-011). The Construction Phase Noise and Vibration Management Plan will set out a procedure for monitoring of the management and mitigation measures. If it is deemed by the relevant planning authority that during construction monitoring of construction noise is necessary, then the locations for such monitoring will be agreed in advance with the relevant planning authority.
CRITIQUE OF THE APPLICANT'S ASSESSMENT		
Operation		
21	7.1 The applicant's noise prediction is stated as a single number for each location, 30.1 dBA cumulative for EA1N and EA2 for the nearest location in Friston, SSR5 NEW. Table 25.30 of Chapter 25 of each ES shows that it has been assumed that the main transformers will have noise enclosures, and comparison of the sound power levels in Table 25.30 with the spectra in Table 25.32 shows that the assumed performance of the main transformer enclosures is a reduction of 35.5 dB(A). This is a substantial requirement for a low frequency source. Further mitigation, for example enclosure of other sources which predominate over the enclosed transformers, may be difficult to achieve.	Prior to the mitigation applied within the modelling presented within the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1), the Applicants have identified STATCOM Air Coolers, STATCOM Air Core Reactors and STATCOM Filter Capacitor Banks as the dominant operation phase noise sources at the closest noise monitoring locations. As per ***section 6.3*** of the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1), following the application of mitigation the harmonic filters are identified as the dominant operational noise source contributions at SSR2 and SSR5 NEW, whilst the auto transformer cooler and High Voltage Alternating

ID	Written Representation	Applicants' Comments
		Current (HVAC) units are identified as the dominant operational noise source contributions at SSR3. Ongoing engagement with the supply chain and designers has identified further mitigation of noise emissions emanating from the STATCOM Air Coolers, STATCOM Air Core Reactors and STATCOM Filter Capacitor Banks, as described in the ***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1) and ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1). As-built mitigation will be identified during the detailed design stage and will be designed to achieve the maximum operational noise rating limit specified within the DCO.
22	7.2 After including the benefit of the main transformer (and shunt reactor) enclosures, Table 25.32 shows that the predominant sources are the STATCOM Air Core Reactor, the STATCOM Filter Capacitor Bank and the Harmonic filter. Their spectra are notable for the fact that their A-weighted sound power levels are 78-79 dB at 125Hz and only 42-44 dB in the adjacent frequency bands of 63Hz and 250Hz as a result of the prominence of sound at 100Hz. When the number of units is taken into account the Air Coolers and Main Transformer Forced Cooling Systems are also sources with high sound power levels, and while these do not have peaks in the 125Hz band, they have peaks at higher frequencies which will be reduced more by ground attenuation than will the 100Hz sources, so that they will not have the effect of masking the 100Hz tone at the distance of the relevant receptors.	The Applicants refer to their response above regarding further noise mitigation for the STATCOM Air Coolers, STATCOM Air Core Reactors and STATCOM Filter Capacitor Banks. The Applicants consider it is inaccurate to assume that there will be a tone at 100Hz based on octave band data which does not include levels at 100Hz.
23	7.3 The predictions are arrived at by combining predictions for each of the two substations, using a standard noise mapping software package which will have produced a power sum of the individual predictions, namely 29.4	No comment.

ID	Written Representation	Applicants' Comments
	dBA for EA1N and 21.8 dB(A) for EA2. This is appropriate when combining two randomly related, incoherent sound sources.	
24	7.4 An important feature of these two applications is that two similar substations will be operated near to each other, and the principal source of noise in each will be transformers and other equipment which emit noise containing strong components at the frequency of 100 Hz.	The Applicants refer to their response provided in ID 12 of this table.
25	7.5 This phenomenon is associated with electrical power installation and is not normally present in other kinds of industrial noise installation. It results in a special case with regard to the combination of noise from more than one source, because depending on exact location, the contributions of separate sources will be in-phase, and this has an important effect on the process of mathematically combining noise levels from different sources. In the normal case, the phase relationship between several sources is random, and combination of sources is carried out by adding the sound intensities of the individual sources. When two or more sources are in-phase, the sound pressures must be added, and whereas adding the sound intensities of two randomly-related sources results in an increase in sound level in decibels of 3 dB, adding two sound pressure results in an increase in sound level of 6 dB. In locations where this occurs constructive interference is taking place. There will also be locations where the sound waves from each source are in anti-phase, the result of combing their sound pressures is a large reduction due to destructive interference.	
26	7.6 A related issue arises with regard to the effect of buildings and rooms, both at the source with regard to transformer enclosures and at the receiver. In rooms with dimensions that are multiples of a half wavelength (approximately 1.68m) standing waves occur which enhance the level of internal noise and both reduce the performance of enclosures and the outside-in-side noise reduction at dwellings. This issue is highlighted in	The Applicants note that the statement made by SASES at ID 26 assumes there is a tone at 100Hz, which SASES have not substantiated. In a similar manner to waveform phasing (please refer to the Applicants' comments at ID 12), the design of the buildings, enclosures and external equipment comprising the onshore substations will take account of

ID	Written Representation	Applicants' Comments
	transformer design codes such as Northern Powergrid's document "NSP/007/020 – Guidance on Substation Design: Transformer Noise".	standing waves and will be designed to appropriate dimensions and specification at the detailed design stage. With regard to the potential that standing waves could occur within a residential property, although the possibility does exist there are a number of other factors that would need to be considered, including the orientation and dimensions of the rooms within those properties. As with the possibility of constructive or destructive interference occurring, the conditions have to be exactly right for standing waves to occur within a room in a residential property.
27	7.7 The result of such sound pressure addition will be dependent on location. If the noise sources listed in Table 25.32 of Chapter 25 of the ES are used to predict received sound levels at a distance of 360m, depending on the assumptions about atmospheric conditions the effect of calculating a pressure sum instead of a power sum is an increase of approximately 4 dB(A).	The Applicants refer to their comments at ID 26, regarding the detailed design of buildings, enclosures and external equipment comprising the onshore substations taking account of standing waves. As previously stated, atmospheric effects are limited in their range and beyond 300m of a source they should not be considered, as other sources (i.e. influence from other natural and anthropogenic noise sources) will become more significant at those locations. It is considered that for source-receiver distances beyond 300m other sources (both natural and man-made) could become more influential to the local noise climate than the operational noise emissions emanating from the Projects' onshore substations.
28	7.8 Over a distance of 360m the phase relationships between multiple 100Hz sound waves will depend on the propagation conditions along each source-receiver line. These are not known in sufficient detail to make it possible to predict exactly where the regions of constructive and destructive interference will be. This effect applies to instantaneous sound level and the DCO limit is specified in terms of equivalent continuous sound level, LAeq, over a	It is reiterated that the potential for equipment to constructively or destructively affect each other's waveforms is related directly to their location with respect to the receptors around them. As stated previously, this is considered highly unlikely to occur. Whilst the DCO maximum operational rating noise level is specified as a LAeq,5min, the suggestion that the measurement length of five minutes being as too short is not considered to be relevant. The sound level

ID	Written Representation	Applicants' Comments
	period of five minutes. As atmospheric conditions can vary with time, over a long enough period, the degree of interference will vary at each location, and combined sound levels will rise and fall. Over a long enough period, the power sum as used in the ES will result, but it is most unlikely that atmospheric conditions will vary sufficiently over a 5-minute measurement period for prevent interference having its full effect.	meters used within the baseline noise monitoring survey were set up at the noise monitoring locations for a minimum of one week and measured continuously in 5 minute intervals. Any change in baseline noise level due to interference would still be present and visible within the baseline noise data if they this occurred; however, this is not observed within the baseline noise data recorded during the survey.
29	7.9 The potentially large variation in received sound level with location is of importance given the application of the Requirements 26 and 27 to two fixed locations at specific points. This may have two consequences – firstly one or other of those points may be in a location where constructive interference is occurring so that predicted sound levels are exceeded and the requirement breached, or secondly both locations may be in areas of destructive interference such that compliance is achieved while higher noise levels are affecting people in dwellings at other locations not covered by the Requirements.	At Deadline 4, the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes. The addition of another noise sensitive location within the ***draft DCO*** ensures the thorough regulation of noise emissions from the onshore substations by establishing a triangulation of monitoring locations at the three closest properties to the onshore substations to the north (SSR3), to the south east (SSR2) and to the south west (SSR5 NEW). It is reiterated that the potential for equipment to constructively or destructively affect each other's waveforms is related directly to their location with respect to the receptors around them. As previously stated, waveform phasing of this nature is considered highly unlikely to happen. To ensure this is the case, once specific details of the layout and equipment are known, further consideration will be given at the detailed design stage as secured in 12 of the ***draft DCO*** (REP3-011).

ID	Written Representation	Applicants' Comments
30	7.10 Uncertainty in general is only considered with regard to the background measurements "The measurements were taken under repeatable conditions and the uncertainty in the result will be low" with no consideration of uncertainty in the prediction. According to paragraph 110 of Chapter 25 of Volume 1, the conclusion that there is no acoustic feature correction required is because the separation distance affects perceptibility. For the tonality correction to be zero, the noise has to be imperceptible according to BS 4142. The perceptibility conclusion reached in the ES is a result of the background sound level being measured at 29 dBA. However, the figure of 29 dBA has been selected from a range of background sound levels and is described as "statistically repeatable". BS4142 provides, in Note 4 to 8.1.4, a method of plotting the statistical distribution of background sound levels, from which the mode can be taken. In Note 1 the Standard says "A representative level should account for the range of background sound levels and should not automatically be assumed to be either the maximum or modal value." It is shown in Appendix 25.1 Baseline Noise Survey Report that the night-time LA90 is in the low 20s on many occasions and was measured at less than 17 dBA. What is not reported is the fact that, other than laboratory equipment, no sound level meter can validly measure levels as low as 17 dBA. What will have been measured is the internal noise "floor" of the instrument, and inspection of the log of the meter would show an indication that it is "under range". Consequently, on many occasions the background noise level will be well below 29 dBA down to less than 17 dBA, and on those occasions the tonal noise emitted by transformers will be clearly perceptible, attracting a penalty for tonality of +6dB. Thus to achieve the noise limits in sections 26 and 27 of the draft DCO the specific noise level would have to be lower than the predicted value of 29 dBA for EA1N alone.	Irrespective of whether tonality or other such acoustic corrections are identified or not, as per the wording of Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011), the Applicants must ensure that the operation of the onshore substations does not exceed the maximum operational noise rating limits at the specified receptors. In accordance with BS4142:2014+A1:2019, the maximum operational noise rating level includes the specific sound plus any acoustic characteristic corrections. Therefore, Requirement 26 and/or Requirement 27 of the ***draft DCO*** (REP3-011) will be inclusive of any acoustic characteristic correction. At Deadline 4, the Applicants have committed to a maximum operational noise rating limit of 32dBA at any time at a free field location immediately adjacent to SSR2 and SSR5 NEW. In addition, the Applicants have also committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes. The Applicants accept that 17dB LA90 is a very low background noise level and is below the measurement range of the noise meter. Both the Rion NL-52 and the B&K2250 sound level meters (SLMs) are certified Class 1 noise meters, which must meet specific criteria in terms of measurement accuracy and range. The "noise floor" of the Rion NL-52 SLM is 25dB(A) and the B&K2250 SLM is 24dB(A). Within the analysis of the background noise level at the onshore substation locations, the Applicants have included measured baseline noise levels below the noise floor of the respective SLM. It is considered that removing values below the noise floor of each SLM within the analysis would result in artificially increasing the overall background noise level above that

ID	Written Representation	Applicants' Comments
		already determined for the onshore substation locations. By including these outliers, the Applicants consider that a more representative background noise level for the onshore substation locations has been determined. The measurement range of each of the SLMs in accordance with IEC 61672 is stated in the manufacturers specification are as follows: • Rion NL-52 SLM: between 25dB(A) and 138dB(A); and • B&K 2250 SLM: between 24.8dB(A) and 139.7dB(A). The manufacturers specification for both SLMs also refers to 'Inherent noise', which relates to the electronic noise generated by the SLM itself. Taking into consideration the 'inherent noise level' stated within the manufacturers specification, baseline noise measurements made between 18dB(A) and 24dB(A) are still acceptable but should be used with caution as an increasing error margin in those measurements would occur as noise levels reduce towards 17dB(A). Care regarding the acceptability of including low noise level measurements within the analysis of background noise should be taken as it has the potential to undermine any noise measurement surveys undertaken in similarly rural areas using currently available noise measurement equipment.
31	7.11 At SSR2 the Baseline Noise Survey Report modal value of the background measurements is 25 dBA according to the EA2 report and >=26.5 <27.5 in the EA1N report.	The Applicants note that ***Table A25.3.9***, ***Appendix 25.3 Baseline Noise Survey*** for both Projects (APP-524) report a modal range for night-time background noise at SSR2 of >26.5, <27.5dBA.
32	7.12 It should be noted that the source spectra given in Table 25.32 of the ES which at source show heavy concentration in the 125Hz Octave band (in which the frequency of 100Hz lies) will change with propagation over	The Applicants note that the noise modelling that has been undertaken incorporated the Octave band data (1/1 frequency data) that was available at the time of the assessment.

ID	Written Representation	Applicants' Comments
	distance due to the effect of ground absorption, to enhance the prominence of the 100Hz tone at the receptor still further.	The Applicants consider that the statement made by SASES at ID 32 assumes there is a tone at 100Hz, which has not been substantiated. The Applicants note that 1/3 Octave Band data is required for a thorough assessment of audible tones in sounds according to Annex C of BS4142:2014+A1:2019, which will only be available at the detailed design stage. Where the requisite data is supplied, the Applicants will review the available 1/3 Octave Band data for tonality.
33	7.13 The cumulative assessment of 30.1 dBA with a +6dB tonality penalty would exceed the DCO limits for EA1N alone by 2.1 dBA. As explained in 6.2 above, in regions of constructive interference, which may cover one or other (or both) of the specified locations, the combined sound level will be several dBA higher and tonality will be very clear so that the DCO limit is significantly exceeded. As also explained above, it is possible that, when commissioning occurs, measured noise levels at the two specified locations will be compliant thanks to their being in regions of destructive interference, but at other locations where there is constructive interference the combined noise level may be well above the limits specified for the DCO locations.	It should be noted that, irrespective of whether tonality or other such corrections are identified or not, as per the wording of Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011), the Applicants must ensure that the operation of the onshore substations does not exceed the maximum operational noise rating limits at the specified receptors. The risk therefore lies with the Applicants to maintain operational noise levels within the levels stipulated in Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011) at any time at a free field location adjacent to the specified noise sensitive locations. In accordance with BS4142:2014+A1:2019, the maximum operational noise rating level includes the specific sound plus any acoustic characteristic corrections. Therefore, Requirement 26 and/or Requirement 27 of the ***draft DCO*** (REP3-011) will be inclusive of any acoustic characteristic correction. At Deadline 4 the Applicants have committed to an additional noise sensitive location, within the vicinity of SSR3 being included within Requirement 26 and 27 of the ***draft DCO*** (REP3-011). The maximum operational noise rating limit applied to SSR3 is 31dBA. The ***draft DCO*** (REP3-011) will be updated and submitted at Deadline 5 to reflect these changes.

ID	Written Representation	Applicants' Comments
		The addition of another noise sensitive location within the ***draft DCO*** ensures the thorough regulation of noise emissions from the onshore substations by establishing a triangulation of monitoring locations at the three closest properties to the onshore substations to the north (SSR3), to the south east (SSR2) and to the south west (SSR5 NEW). It is anticipated that further noise modelling will be undertaken for the final detailed design of the onshore substations to verify that the design would comply with the maximum operational noise rating limit specified within the DCO.
34	7.14 No cumulative assessment is provided that includes the adjacent National Grid Substation on the grounds that (ES Chapter 25 25.3.2.1 page 8) "29. The National Grid infrastructure does not contain plant such as high voltage transformers or shunt reactors, or rotating plant such as transformer coolers, that would usually be the dominant noise sources from a substation during operation. 30. Any noise during the operational phase from National Grid infrastructure would be due to switchgear (circuit breakers & isolators), and if present, auxiliary plant such as control systems or an emergency generator.	The ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1) provides a the outputs of modelling undertaken based on the new design changes, as specified with the ***Project Update Note*** submitted at Deadline 2 (REP2-007), the ***Deadline 3 Project Update Note*** (REP3-052) and the ***Deadline 4 Project Update Note*** (document reference ExA.AS-2.D4.V1). National Grid Electricity Transmission (NGET) have re-confirmed to the Applicants that there will be minimal reactive (winding) plant at the National Grid substation. As a consequence, minimal noise sources are considered to be present at the site. However, the Applicants have provided model outputs to substantiate this claim within the ***Noise Modelling Clarification Note*** submitted at Deadline 4 (document reference ExA.AS-8.D4.V1).
35	7.15 However, the subsequent paragraph draws attention to "noise from switchgear which is impulsive in character" but makes no numerical assessment of it on the grounds that "these items of plant are designed to be inherently quiet in operation, and do not make operational noise or vibration at a level that would be perceptible at NSRs." Impulsivity attracts an additional penalty of from +3 to +9 dBA in BS4142 depending on its perceptibility.	The Applicants refer to the updated noise modelling exercise undertaken and presented within the ***Noise Modelling Clarification Note*** submitted at Deadline 4 (document reference ExA.AS-8.D4.V1), which includes the noise model results for impulsive switchgear activations within ***Table 6*** (in terms of L_{pA} and $L_{AMax,f}$). It is noted that switchgear is only activated under an emergency or for occasional testing, and so does not form part of the day to day or normal operation of the National Grid substation.

ID	Written Representation	Applicants' Comments
		As the predicted noise levels (LpA) modelled were below the measured background noise level, no correction for intermittency was applied. In terms of $L_{AMax,f}$, the operation of the switchgear was found to produce noise levels below those already experienced at the nearest noise receptors. Data provided to the Applicants by National Grid regarding the activation of the switchgear at the Necton Substation, Norfolk, showed that (excluding commissioning) there were 26 activations across five items of switchgear over a period of 18 months (either planned or unplanned).
36	7.16 The noise predictions benefit significantly from the presence of ground absorption (ES Chapter 25 178, page 52). No assessment is made for times when there is a temperature inversion, which over the distances involved can partially or completely negate the attenuation provided by absorptive ground in a homogeneous atmosphere. Likewise, no assessment is made for the case of a light wind from source to receiver which has a similar effect. The draft DCO limit applies in all weather conditions.	The Applicants note that it is not standard practice to include an assessment of noise propagation under multiple scenarios of meteorological conditions. Regardless, the Applicants note that the maximum operational noise rating levels stated within the ***draft DCO*** (REP3-011) apply to the full operational lifetime of the Projects. As such, the maximum operational noise rating level must be adhered to irrespective of the atmospheric conditions.
Construction – The Outline Code of Construction Practice		
37	7.17 The outline code of construction practice contains a section "Noise and Vibration Management" which consists of seven paragraphs. The main objective is to minimise noise and vibration impacts to acceptable levels, with no statement as to what those levels are, and to comply with relevant legislation, requirements, standard and best practice relating to construction sites.	The Applicants note that an outline management plan serves to demonstrate the information presented within the final management plan produced post-consent. When preparing the final CoCP post-consent, the Applicants will consult with the relevant planning authority (East Suffolk Council) and agree appropriate and acceptable levels at specified noise sensitive receptors in accordance with BS5228:2009+A1:2014 or other relevant guidance at the time.

ID	Written Representation	Applicants' Comments
		Where required, specific mitigation measures with regard to construction noise will be set out within the final CoCP (and the associate Construction Noise and Vibration Management Plan) for locations where noisy activities are anticipated to affect sensitive receptors. The final CoCP must be submitted to and approved by the relevant planning authority prior to the commencement of onshore works.
38	7.18 As explained below, the section of the ES which deals with "acceptable levels" misstates the content of BS 5228 and fails to take account of best practice in a recent document issued by the Highways Agency (LA 111) or to follow best practice as for example followed by other major projects such as HS2 or Thames Tideway Tunnel.	The Applicants consider the use of Highways Agency guidance (LA 111) applies to highways schemes and it would be inappropriate to reference this guidance to provide justification for acceptable levels in the context of a non-highway assessment. The Expert Topic Group (which included the relevant planning authority (East Suffolk Council)) was consulted on and accepted the use of BS5228 (ABC method). It is also noted that the Highways Agency guidance referred to (LA 111) was not published at the time of the assessment being undertaken. The Applicants note that both HS2 and Thames Tideway Tunnel are of a significantly different scale to that which is being proposed by the Applicants. The measures proposed to mitigate construction noise should be proportionate to the level of impact identified.
39	7.19 Best practice, as evidenced by the draft HS2 CoCP and the Thames Tideway Tunnel draft CoCP prepared at the DCO application stage, both include a commitment the contractors will be required to seek consents from the relevant local authority under Section 61 of the Control of Pollution Act 1974 for the proposed construction works. BS 5228-1:2009+A1:2014 provides information on the application of the Section 61 process.	As per the above response, the Applicants note that both HS2 and Thames Tideway Tunnel are of a significantly different scale to that which is being proposed and come into closer contact with a significantly greater number of residential receptors than that of the Projects. Given the nature of the Projects, the Applicants do not consider it necessary to seek consent from the relevant planning authority under Section 61 of the Control of Pollution Act 1974 for the construction works proposed.

ID	Written Representation	Applicants' Comments
40	7.20 Current best practice is to require that the contractor shall ensure BPM, as defined under Section 72 of the CoPA, at all times for all activities in order to minimise noise and vibration from the works.	The Applicants confirm that the mitigation measures relating to construction noise presented within the final CoCP, which must be submitted to and approved by the relevant planning authority in accordance with Requirement 22 of the ***draft DCO*** (REP3-011), will have regard to current best practice. All Contractors working on the construction of the Projects must ensure compliance with the final approved CoCP or otherwise face disciplinary action.
41	7.21 In the absence of a S61 consent, enforcing a failure to follow the CoCP will be a long drawn out process, possibility necessitating proceedings for a breach of a DCO requirement, whereas breach of a S61 consent is an offence.	The Applicants confirm that any breach of the CoCP by a Contractor working on the construction of the Projects will be fully investigated in a prompt and efficient manner. Any breach found to have occurred will be met with a proportionate response, comprising either corrective or disciplinary actions.
The construction noise assessment in the Environmental Statement		
42	7.22 The ES (page 22 paragraph 74 and page 47 Table 25.26) relies on the "ABC method" described in BS5228-1:2009+A1:2014. Contrary to the statement made in the ES this method does not establish that there is no impact below the three thresholds presented. The "ABC" method appears in the Standard as one of several examples to illustrate ways of assessing significance, The examples are offered as guidance which "might be useful in the implementation of discretionary powers for the provision of off-site mitigation of construction noise arising from major highways and railway developments". The Standard offers significance assessment based on fixed noise limits and an alternative based on noise change. Two noise change methods are offered, the first being the ABC method, and this has been widely used on many major projects. It offers a decision matrix for potential significant effects at dwellings. If the case in which the ABC method is applied leads to an outcome that does not exceed the significant	The method used to define construction impact is, as SASES acoustic consultant states, based on the ABC method set out within BS5228:2009 +A1:2014 Part 1:Noise. As stated within the ***Noise and Vibration Assessment Clarification Note*** submitted at Deadline 2 (section 3) (REP2-011), the Applicants maintain that the BS5228-1:2009+A1:2014 ABC Method is the appropriate guidance to use for the assessment of significance of construction phase noise impacts. BS5228-1:2009+A1:2014 is the nationally adopted methodology for construction noise assessments and does not recommend that alternative methods are used to define impacts when construction works are undertaken in otherwise quiet areas. Consultation with key stakeholders regarding noise and vibration was undertaken via Expert Topic Group Meetings. Members of the Noise and Vibration Expert Topic Group included the relevant planning authority

ID	Written Representation	Applicants' Comments
	effect threshold, this does not mean there is no impact and there is no statement to that effect in the Standard.	(East Suffolk Council). Details of the pre-application consultation undertaken regarding noise and vibration matters is presented within ***Appendix 25.1 Noise and Vibration Consultation Responses*** to the ES (APP-522). Agreement on the assessment approach and methodology with the Noise and Vibration Expert Topic Group, including the East Suffolk Council Environmental Health Officer, was reached in April 2018 as per ***Paragraph 41*** of ***Chapter 25 Noise and Vibration*** of the ES (APP-073). During an ETG meeting (May 2019), East Suffolk Council's Environmental Health Officer agreed that construction noise levels were assessed correctly due to the short-term nature of the impact, i.e. a balance needs to be drawn between longer construction duration or short-term higher noise levels. Working hours were also discussed in this meeting.
43	7.23 The Design Manual for Roads and Bridges document LA111 Revision 2 May 2020, Table 3.12, takes BS5228 further into the setting of LOAEL (Lowest Observed Adverse Effect Level) and SOAEL (Significant Observed Adverse Effect Level) values and says that LOAEL is the baseline and SOAEL is the ABC threshold. This is in sharp contrast to the ES which falsely says the ABC threshold is the boundary between no impact and negligible impact	The Applicants consider the use of Highways Agency guidance (LA 111) applies to highways schemes and it would be inappropriate to reference this guidance to provide justification for acceptable levels in the context of a non-highway assessment. The Expert Topic Group (which included the relevant planning authority (East Suffolk Council)) was consulted on and accepted the use of BS5228 (ABC method). It is also noted that the Highways Agency guidance referred to (LA 111) was not published at the time of the assessment being undertaken.
44	7.24 Although LA111 is about highway construction and not substation construction, it would be wholly inconsistent to apply one interpretation to the same kind of noise when it was for road construction and then switch to another interpretation when entering the substation site.	The Applicants refer to their comment at ID 43.

ID	Written Representation	Applicants' Comments
45	7.25 National Policy Statement EN-1 states "5.11.9 The IPC should not grant development consent unless it is satisfied that the proposals will meet the following aims: • avoid significant adverse impacts on health and quality of life from noise; • mitigate and minimise other adverse impacts on health and quality of life from noise; and • where possible, contribute to improvements to health and quality of life through the effective management and control of noise. When preparing the development consent order, the IPC should consider including measurable requirements or specifying the mitigation measures to be put in place to ensure that noise levels do not exceed any limits specified in the development consent."	The assessment of construction noise undertaken shows that where impacts have been predicted, they are at a level no greater than minor in their significance prior to the inclusion of noise mitigation (as presented within the ***section 25.6.1***, ***Chapter 25*** of the ES (APP-073)). In Environmental Impact Assessment (EIA) terms, a minor impact is not considered a significant impact.
Conclusions		
Operation		
46	8.1 The cumulative noise from EA1N and AE2 at the specified locations, in neutral atmospheric conditions, is predicted to be 30.1. This is based on a power sum of the individual contributions of noise sources in each of the two substations. Over the 5-minute measuring period of the DCO requirement, due to the fact that the most significant sources contain prominent components at the single frequency of 100Hz, there will be cases where constructive interference will occur and a pressure sum and not a power sum will be required giving a result several dB higher than the ES prediction. The choice of background noise level is the ES is 29 dB(A), but the ES also shows, using the same statistical methodology, a	The Applicants note that the statement made by SASES at ID 46 assumes there is a tone at 100Hz, which SASES have not substantiated with supportive evidence. As previously mentioned, the potential for equipment to constructively or destructively affect each other's waveforms is related directly to their location with respect to the receptors around them, which is considered highly unlikely. Regarding tonality the Applicants note that 1/3 Octave Band data is required for a thorough assessment of audible tones in sounds according

ID	Written Representation	Applicants' Comments
	background noise level of 25 dBA at one of the closest receptors in the Friston area. The DCOs require a cumulative rating level not exceeding 34 dBA from EA1N and EA2 to be determined at the same two specified locations. The ES prediction is 36.2 dBA once a tonality correction has been applied, and higher in meteorological conditions such as temperature inversions or light winds. In the event, higher levels may occur in locations other than those specified in Requirements 26 and 27. Subtracting a background of 29 dBA from 36.2 dB(A) gives a difference of +7, and the difference will be several dB higher in the weather conditions favourable to propagation, and further increased as a result of constructive interference. The BS 4142 conclusion, derived as required by the Overarching National Policy Statement for Energy (EN-1), when the difference between the rating level and the background sound level is around +10 dB or more is "an indication of a significant adverse impact". EN-1 at 5.11.9 states that significant adverse impacts on health or quality of life should be avoided.	to Annex C of BS4142:2014+A1:2019, which will only be available at the detailed design stage. Where the requisite data is supplied, the Applicants will review the available 1/3 Octave Band data for tonality. It should be noted that, irrespective of whether tonality or other such corrections are identified or not, as per the wording of Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011), the Applicants must ensure that the operation of the onshore substations does not exceed the maximum operational noise rating limits at the specified receptors. The risk therefore lies with the Applicants to maintain operational noise levels within the levels stipulated in Requirement 26 and Requirement 27 of the ***draft DCO*** (REP3-011) at any time at a free field location adjacent to the specified noise sensitive locations. In accordance with BS4142:2014+A1:2019, the rating level includes the specific sound plus any acoustic characteristic corrections. Therefore, Requirement 26 of the draft DCO (APP-023) will be inclusive of any acoustic characteristic correction. Consideration of acoustic characters, including tonality and constructive or destructive interference, will form part of the detailed design process. It is anticipated that further noise modelling will be undertaken for the final detailed design of the onshore substations to verify that the design would comply with the maximum operational noise rating limit specified within the DCO. As per the ***Noise Modelling Clarification Note*** (document reference ExA.AS-8.D4.V1), the noise modelling predicts received noise levels of no greater than 3dBA at the noise sensitive receptor locations arising from the cumulative operation of the Projects. This is both well below the 10dB cited by SASES' consultant and below the +5dB cited in BS4142:2014+A1:2019 as being an indication of an adverse impact. It is

ID	Written Representation	Applicants' Comments
		also noted that, under Scenario C, the model outputs show that the predicted noise level contribution from the onshore substation at SSR2 and SSR5 NEW are below the measured background noise levels. The Applicants do not agree with the statement that policy EN-1 will not be met. As previously stated, the cumulative operation of both Projects (considered to be worst case) is below 5dB which is defined in BS4142:2014+A1:2019 as being an indication of an adverse impact. Therefore, significant adverse impacts are assessed not to occur, meaning the requirements of EN-1 are met and significant adverse impacts on the health and quality of life will not occur.
Construction		
47	1.10 The outline Code of Construction Practice (CoCP) is deficient, and this is of great importance since Requirement 22 states that the full CoCP for which approval must be obtained from the local authority must accord with the outline code of construction practice. Consequently it is necessary that matters which are essential for inclusion in the final CoCP should be foreseen in the outline CoCP.	An updated ***Outline CoCP*** was submitted to the Examination at Deadline 3 (REP3-022), which sets out the control measures to be adopted during the construction phase with regard to mitigating construction noise. The Applicants refer to their comments at ID 19 and ID 20 in response to the specific comments relating to the ***Outline CoCP*** raised by SASES.
48	1.11 The construction noise assessment uses incorrect criteria due to a mis-interpretation of current standards and guidance.	The Applicants do not agree with this statement and maintain that the usage of BS5228-1:2009+A1:2014 ABC Method is the appropriate guidance to use for the assessment of significance of construction phase noise impacts. BS5228-1:2009+A1:2014 is the nationally adopted methodology for construction noise assessments and does not recommend that alternative methods are used to define impacts when construction works are undertaken in otherwise quiet areas.

ID	Written Representation	Applicants' Comments
		The Applicants also do not agree with the suggestion from SASES that the Highways Agency guidance LA 111 is appropriate for the assessment of non-highway construction effects.

2.5 Landscape and Visual Impact Assessment

Applicants Comments on SASES Written Representations - Landscape and Visual (REP1-365)
PINS Ref 20024106 & 20024110

The Applicants have provided comments on the SASES Written Representations – Landscape and Visual (REP1-365) across three tables as follows addressing the written representations on landscape and visual matters, including landscape and visual issues relating to site selection contained within Appendix 3 and 4 of SASES written representation (REP1-365):

- Table 2.6: Applicant Comments on 'Landscape and Visual Issues relating to the Onshore Development at Friston' (SASES, October 2020)
- Table 2.7: Applicant Comments on Appendix 3 – 'Landscape and Visual Issues relating to Site Selection for Onshore Substations' (SASES, September 2018)
- Table 2.8: Applicant Comments on Appendix 4 – 'Review of Site Selection Criteria and Application' (SASES, March 2020)

Table 2.6 Applicant Comments on 'Landscape and Visual Issues relating to the Onshore Development at Friston' (SASES, October 2020)

ID	Written Representation	Applicants' Comments
1	**Executive Summary**	Please refer to the Applicants' comments on Sections 4 – 12 in this table.
2	**Introduction**	N/A
3	**Landscape Planning Policy Context**	
Proposed Development		
4	Introduction, Rochdale Envelope and Onshore Components 4.1 – 4.6	N/A
5	***Construction Duration*** 4.7 The indicative durations for key construction activities (those in bold would take place entirely at Friston) include: • Construction of landfall – up to 12 months	An initial high-level indicative programme was developed for the ES and presented in ***section 6.9*** of ***Chapter 6 Project Description*** (APP-054). This highlights the durations of construction for individual parts of each Project. Activities in different parts of the onshore development area will run in parallel with the longest period required for construction of the substation (30 months). In all, it is expected that the total duration of construction will

ID	Written Representation	Applicants' Comments
	• Construction of onshore cable route – up to 24 months • Construction of a SPR substation – up to 30 months • Construction of NG substation – up to 48 months • Construction of NG overhead line realignment works – up to 12 months within a 36 month window.	be three years for one Project. It should be noted that the works for the National Grid substation is expected to be up to 48 months, although this would include works for both Projects. The Applicants refer to the ***Project Update Note*** (REP2-007) submitted at Deadline 2. This describes the Applicants' commitment where, should both the East Anglia ONE North project and the East Anglia TWO project be consented and then built sequentially, when the first project goes into construction, the ducting for the second project will be installed along the whole of the onshore cable route in parallel with the installation of the onshore cables for the first project. This will include installing ducting using a trenchless technique at the landfall for both Projects at the same time. ***Chapter 29 Landscape and Visual Impact Assessment*** (LVIA) (APP-077) considers a reasonable worst case in terms of the construction programme and flexibility in how the projects are delivered is essential. The cumulative impact assessment in ***Chapter 29 LVIA*** and ***Appendix 29.5*** (APP-569) considers the proposed East Anglia TWO project and the proposed East Anglia ONE North project under two construction scenarios: Scenario 1 - built simultaneously; and Scenario 2 - constructed sequentially. It is clearly set out that the assessment covers both scenarios. The assessment of cumulative construction effects presented shows the effects under scenario 2, as the likely worst-case scenario, however, as described in the ES the magnitude of change is the same under construction scenario 1 and 2. The only difference being that under scenario 2 the effect is considered medium-term for the construction of the onshore substations and National Grid substation; landfall and onshore cable corridor - due to the duration of construction activities including the
6	4.8 The ES does not include a construction sequence for the entire project or projects (only the onshore cable routes). It is not clear which, if any, of the above works would be undertaken at the same time. Nor how much overlap there would be for those that were undertaken sequentially. Similarly, it is not known whether the proposed East Anglia ONE North project and proposed East Anglia TWO project would be built concurrently or sequentially.	
7	4.9 Even assuming it was possible to undertake all the works at Friston concurrently, the minimum construction period is 4 years. If the overhead realignment works requires the NG substation to be complete the minimum period would be 5 years. If the SPR substations are constructed independently the construction period of the two SPR substations alone would take at least 5 years and potentially longer as it is not clear at what stage of NG overhead line realignment works could take place, or whether there would be a 'pause' between the construction of the two SPR substations. It is also unclear whether other development may come forward at the NG substation in relation to other energy projects. This may further extend the duration of the construction works at Friston.	

ID	Written Representation	Applicants' Comments
8	4.10 The length of the construction period also determines the potential period for pre commencement planting. This is considered in more detail in Section 11 Mitigation Proposals. The visualisations have assumed 3 years for the pre-commencement planting, but it is not clear how this length of time is derived.	construction gap between each project, whereas under scenario 1 the effect is assessed as short-term.
Published Landscape Character Assessments		
9	Introduction 5.1 – 5.2	N/A
10	National Character 82: Suffolk Coast and Heaths 5.3 – 5.5	
11	*Suffolk Landscape Character Assessment (Updated and Revised 2011)* 5.6 *The Suffolk Landscape Character Assessment (Suffolk County Assessment) was undertaken by Suffolk County Council in partnership with the Living Landscapes Project and all District and Borough Councils in Suffolk. It mapped and describes landscape character types (LCT) across the county, at a scale of 1:50,000.*	
12	5.7 The majority of the ODA (because of the cable route) falls within LCT 7. Estate Sandlands, although a large tract of land around and including the proposed substations is within LCT 1. Ancient Estate Claylands. The character of each LCT is summarised below along with the relevant guidance.	Although the onshore development area (north of Friston) includes land within LCA 1 (Ancient Estate Claylands) and LCA 7 (Estate Sandlands), the Applicants note that the majority of the substations and infrastructure fall within LCT 1 Ancient Estate Claylands (***Figure 29.2***) (APP-392). The majority of the onshore cable route falls within LCT 7 Estate Sandlands.

ID	Written Representation	Applicants' Comments
13	5.8 LCT 1 Ancient Estate Claylands. LCT 1 occupies the edge of the clay plateau which in places allows for views which are open and long. It has an enclosure pattern which is 'generally ancient and organic in appearance' with straighter boundaries found where the influence of former estates is strongest. Settlement consists of 'occasional villages and numerous dispersed hamlets and farmsteads' with many of the latter being medieval in origin. Vegetation includes 'blocks of ancient semi-natural woodland' and numerous hedgerow trees.29 The guidance for new large-scale agricultural buildings in the open countryside, outlined above, is also applicable to LCT 1.	The Applicants consider that LCT 7 Estate Sandlands, which forms a component part of the SCHAONB, is of higher landscape value and that the siting of the onshore substations largely outwith LCT7, addresses siting guidance in terms of mitigating impact on LCT 7 Estate Sandlands.
14	5.9 LCT 7 Estate Sandlands relates to two discrete areas within the county: covering the Brecks and the area known as the Sandlings. The latter is the area affected by the ODA. It is described as a flat to gently rolling plateau of freely-draining sandy soils, which together with the dry conditions, have over time given rise to extensive areas of heathland. This landscape type is generally without ancient woodland but is characterised by widespread tree belts and rectilinear plantations planted as part of the creation of farmland out of the former heaths in the 18th and 19th centuries.	
15	5.10 The Guidance Note for LCT 7 explains how 'the sparse settlement means that this is a deeply rural landscape so some developments that could be accommodated in visual terms in these areas can still have a profound effect on the character of this landscape type'.[30] Electrical transmission infrastructure is not listed as a key force for change within the Guidance Note for LCT 1. However, new large-scale agricultural buildings within the open countryside are covered by the guidance. Although agricultural buildings typically have a greater affinity with a rural setting, the guidance relating to their scale and the open context of the plateau is considered to be applicable to the substation/infrastructure, in particular.	The Applicants note the guidance for LCT1 for new large-scale agricultural buildings, which SASES considers is applicable to electrical transmission infrastructure. The Applicants note that the siting and design of the onshore substations addresses the guidance in a number of these recommendations, as follows: • The orientation of the substations derived from a process of local siting to refine the best location for the two onshore substations and National Grid substation relative to the existing overhead lines. One of the main drivers for the co-location and local siting of the substations was to reduce landscape and visual impact, with a

ID	Written Representation	Applicants' Comments
	The guidance explains how the 'right choice of siting, form, orientation and colour of these buildings can make a considerable contribution to mitigating their impact' and recommends: • Buildings should relate to an existing cluster of buildings whenever possible. • The correct orientation of the building should be explored as it can significantly change the visual impact of the development. • Management of existing hedgerows should also be explored. • The location of the development in relation to existing trees that act either as screening or as a backdrop should be carefully considered. • New planting should be designed to integrate the development into the character of this landscape, and may consist of both backdrop and screening planting. • In many cases the landscape impact of these projects is only acceptable if it is mitigated by effective planting. The applicant should therefore provide a detailed scheme of planting and aftercare, which can form the basis of a condition.	preference for co-locating substations adjacent to and in parallel to the existing overhead power line in order to minimise wider character change and effects on more visual receptors over a wider area. The orientation and layout of the substation buildings and electrical infrastructure is determined by the operational requirements. • The ***OLEMS*** (REP3-030) provides for hedgerow planting and management at both the substations site (***section 3.5.7***) and onshore cable route (***section 5.3***). • The siting of the onshore substations in relation to existing woodland that acts as screening and as a backdrop has been carefully considered and is described in the ***OLEMS (section 3.5.1 - 3.5.2)*** (REP3-030). • New planting has been designed to integrate the development into the landscape, consisting of both backdrop and screening planting, as described in the ***OLEMS (section 3.5)*** (REP3-030) to mitigate landscape and visual impacts. • The applicant has provided an outline scheme of planting and aftercare within the ***OLEMS*** (REP3-030) which provides the basis for the agreement of a detailed landscape management plan (LMP) under the DCO. The Applicants propose to prepare a LMP based upon an adaptive planting maintenance scheme (dynamic aftercare) to ensure the application of best practice and timely delivery in the implementation and maintenance of the landscape planting proposed in the LMP.
16	Suffolk Coastal District Landscape Character Assessment (July 2018) 5.11 The Suffolk Coastal District Landscape Character Assessment (Suffolk Coastal Assessment) was prepared by Alison Farmer Associates on behalf of Suffolk Coastal District Council (prior to its merger with Waveney District Council). It used the LCT boundaries from the Suffolk County LCA to inform	The Applicant notes that the Suffolk County LCA was agreed through the consultation process with the ETG as the appropriate landscape character assessment for the LVIA presented in ***Chapter 29 LVIA*** (APP-077). The key characteristics of landscape character areas from the more detailed Suffolk Coastal District LCA (July 2018) are also referred to in the LVIA, in order to further describe the sense of place and distinctiveness of the

ID	Written Representation	Applicants' Comments
	the definition of more detailed and place specific landscape character areas. (Emphasis added). These were mapped at a scale of 1:25,000.	Suffolk County LCTs, particularly those in which the onshore substation and National Grid substation are located (para 103 of ***Chapter 29 LVIA*** and ***section 29.3.1*** of ***Appendix 29.3*** (APP-567)).
17	5.12 The majority of the ODA (because of the cable route) falls within LCA K3: Aldringham and Friston Sandlands (an 'Estate Sandlands' landscape type). However, the proposed substations and a substantial tract of land around lies within LCA L1: Heveningham and Knodishall Estate Claylands (an 'Ancient Estate Claylands' landscape type). (Figure 3) These are described below.	***Chapter 29 LVIA*** (APP-077) recognises the location of the onshore substations within LCA L1: Heveningham and Knodishall of the Suffolk Coastal District LCA. The Applicant notes the description provided and would note the following characteristics described in the LCA but not mentioned by SASES: *'The estate feel is weaker than in some parts of East Suffolk but there is a strong sense of the importance of large-scale agri-businesses which dominates land use. Some farms feature large scale indoor livestock farming'. 'Field boundaries tend to be straight and regularised. There are some areas of post 1950s farmland where the ancient patterns have been lost more comprehensively'.* This recognises the influence of modern, large scale farming, which is prevalent at the substations site to the north of the smaller enclosures that are immediately north of Friston, in the areas between Grove Road and the overhead power lines. *'The experience is mile after mile of lightly settled farmland';* and *'it is notable that despite this being the largest character area in he district, there are no villages of any size on the plateaux'.* This suggests a large scale and spare settlement, that may be more appropriate to accommodate development than smaller scale settled landscapes. *'Orientation is not always easy along its narrow straight lanes without distinctive topographical features or landmarks to provide orientation'.* This recognises the enclosure often provided within the landscape and the general lack of landmarks.

ID	Written Representation	Applicants' Comments
		'Encounters with large industrial agricultural buildings have a negative impact, especially where there is inadequate screening'; and 'There are a number of large-scale modern agricultural buildings, including a number of intensive livestock units, which can sometimes cause moderate adverse visual impacts. Recognises the presence of existing large industrial agricultural buildings in the landscape. *Woodland is scattered in parcels fairly evenly across the area, some of them ancient in original. In addition to the woodland, roadside trees and hedges, and field boundary vegetation, are often present and form a significant component of the tree cover.* This recognises the extent of existing of existing woodlands, trees and hedgerows in the landscape that provide screening and may reduce the landscape and visual impact of development.
18	5.13 LCA L1: Heveningham and Knodishall Estate Claylands is the largest character area identified in the study. It comprises a gently rolling clayland plateau which is described as 'a landscape of quiet farmland with a simple, unified and deeply rural character. There are no large villages, only an irregular network of quiet lanes with only scattered farms and hamlets to provide any sense of settlement'[6]. The landscape is said to be 'deeply rural and attractive[7]'. The character of the eastern part of the LCA L1, which includes the ODA, is described as being less unified due to its proximity and transition into the Sandlands LCT. The landscape in this eastern area is 'somewhat more fine grained, there is more pasture and less emphasis on large scale agricultural organisation which gives rise to a more textured and rich visual experience'.33 Detractors within the landscape include 'large	N/A

[6] Suffolk Coastal Landscape Character Assessment July 2018 Page 102
[7] Suffolk Coastal Landscape Character Assessment July 2018 Page 102

ID	Written Representation	Applicants' Comments
	industrial agricultural buildings [which] have a negative impact, especially where there is inadequate screening'.	
19	5.14 The Special Qualities and Features of LCA L1 include (emphasis added): • Its special qualities are its **particularly unified character - a peaceful, deeply rural 'backwater'**, focused on farming. • **There is little intrusion from modern development**, especially in the more remote western part. Whist some conversion has taken place of agricultural buildings, the remoteness of the area has helped protect it from development pressure, and it has likely changed little in the 20th and 21st centuries.	N/A
20	5.15 Strategy Objectives for LCA L1 Heveningham and Knodishall Estate Claylands include: • **Protect the unspoilt, quiet, and essentially undeveloped rural character of the area.** • Protect the plateau landscape from visual intrusion of development in areas beyond this character area e.g. from new tall vertical features such as masts or turbines or new urban development. • **Protect the landscape from development of a scale that harms the prevailing light, scattered nature of the existing settlement.** • Manage areas of semi-natural woodland through appropriate woodland management schemes. • Manage hedgerows to retain and restore the pattern of network of field boundaries, especially where suckering elm is present – introduce coppicing if needed.	The Applicants note that the OLMP associated with the onshore substations will meaningfully contribute to the following objectives: • Manage areas of semi-natural woodland through appropriate woodland management schemes. • Manage hedgerows to retain and restore the pattern of network of field boundaries. • Plan for enhancements to biodiversity in this highly agricultural landscape. The Applicants also note that the siting of the onshore substations next to the existing overhead lines and in an area that is visually contained by woodland contributes to mitigating the effect on the plateau landscape from visual intrusion of development.

ID	Written Representation	Applicants' Comments
	• Plan for enhancements to biodiversity in this highly agricultural landscape, perhaps opportunities that might emerge through agri-environmental schemes.	
21	5.16 LCA K3: Aldringham and Friston Sandlands includes the coast south of Sizewell to Thorpeness and extending inland to include parts of Leiston, Aldeburgh and the smaller villages of Knodishall Common, Friston and Snape. The area comprises flat and gently rolling farmland between the plateau landscape to the north and west and the lower lying coastal landscapes to the south. It is distinguished by its 'Sandlings' character which includes 'pockets of heathland and woodlands' which also exist alongside large-scale intensive agriculture. The overhead pylons which transmit power away from Sizewell are identified as a detracting feature which 'have a substantial negative impact in the more open areas' where they are said to 'distort the sense of scale within the landscape'.[34] The Sandlings Walk Long Distance Footpath is identified as one of the 'Special Qualities and Features' of LCA K3.	The Applicants note that the onshore substations are located almost entirely outside LCA K3: Aldringham and Friston Sandlands, with just the western edge of the NG substation, access road and landscape planting being within this LCA. The Applicants note the description of the existing overhead transmission lines and pylons as a negative feature in LCA K3 and asserts that this detracting influence would also be similarly applied to their influence on LCA L1: Heveningham and Knodishall in the vicinity of the onshore substations site. The Applicants have committed to undergrounding of the Projects onshore cables. This mitigates operational impacts on LCA K3 as there is no above ground infrastructure retained along the cable route across the LCA (with the exception on small marker posts).
22	5.17 Strategy Objectives for LCA K3 include: • Restore, maintain and enhance the network of pine lines, tree belts and pattern of small plantations found across much of this landscape type. • Manage areas of existing scrub and woodland, protecting the mosaic of habitats and variety of contrasting open and enclosed spaces found in this landscape.	The Applicants note that the OLMP associated with the onshore substations will meaningfully contribute to both of these landscape strategy objectives, including the restoration and enhancement of the network of tree lines/belts and pattern of plantation woodlands; the management of existing woodland, and creation of habitat mosaics.
Local Landscape Character Context at Friston		
23	ODA for SPR and NG Substations and Infrastructure	No comments

ID	Written Representation	Applicants' Comments
	6.1 – 6.3	
24	**Countryside North of Friston** 6.4 The SPR&NG ODA (north of Friston) includes land within LCA L1 (Heveningham and Knodishall Estate Claylands) and LCA K3 (Aldringham and Friston Sandlands). The substations and permanent infrastructure are located mostly within LCA L1 (Figure 3) although close to the boundary with LCA K3 which lies to the west and east. Friston village is entirely within LCA K3.	The Applicants note and agree that the substations and infrastructure are located mostly within LCA L1, although close to the boundary with LCA K3. The Applicant would highlight the difference in character between the site of the substations and land to the south within LCA K3 within which Friston village is located. Land north of the village and land within/immediately around the village is within two different LCAs. This reflects the transition in character identified in both the Suffolk Coastal LCA and the Suffolk Historic Landscape Characterisation (2008), from the pre-18th century enclosures immediately north of Friston village to a post-1950's agricultural landscape further north. The Applicant notes that the majority of the substations and associated infrastructure are located within this area further north of the village, in areas with large scale agricultural organisation, which has had its character altered as a result of agricultural changes in the post-war period, with a larger scale field pattern and modern influences such as the overhead transmission lines. The Applicant notes that the reduction in the footprint of each of the onshore substations and their resulting relocation (as summarised in the ***Project Update Note*** (REP2-007) submitted at Deadline 2) has further contained development within the area of LCA L1 and minimises effects on LCA K3 by ensuring that the enclosure provided by the well-defined hedgerow network immediately north of Friston (within LCA K3) is retained and enhanced with further planting. The Applicant notes that there have been many changes in the landscape within the onshore development area to the north of Friston since the 1st edition OS, including areas of post 1950s farmland where the historic field patterns have been lost and the introduction of more recent development features or land uses in the present day landscape, such that the present
25	6.5 Although land north of the village is within two different LCAs, the countryside in this area has a coherent character overall and is highly representative of the 'quiet farmland' of LCA L1. It comprises a landscape that is focused on arable farming, with a clear pattern of irregular fields, pockets of woodland and a number of historic farms which feature Grade II listed farmhouses. The landscape north of the village demonstrates a number of LCA L1's Special Qualities. In particular, the lack of any sizeable settlement or intrusion from modern development, apart from the overhead transmission lines, creates a unifying sense of a peaceful, deeply rural 'backwater'.[35]	
26	6.6 The transition from a larger to a finer grained landscape, that occurs when travelling north-south towards Friston village is a distinctive characteristic of the countryside north of the village. This transition is very apparent when looking at aerial photography (Figure 8). Figure 8 also illustrates how on all other sides, the village setting comprises a more regular pattern of large-scale fields, with some used for pig farming (with sheds). A photograph taken from the tower of Friston Church is helpful in illustrating the field pattern north of Friston and the transition in the scale of	

ID	Written Representation	Applicants' Comments
	enclosure leading towards the village (see Photograph A (Figure 12)). In the northern part of the SPR&NG ODA, north east of the site of the NG substation, the landscape features larger arable fields on a rolling clayland plateau (rising to 24m above ordnance datum (AOD)) (Figure 7). Towards the village, and at the location of the proposed substations, the size of the fields starts to decrease and there is a greater sense of enclosure provided by the well-defined hedgerow network and woodlands at Grove Wood and Friston House.	day landscape is clearly quite different to that of the 19th century landscape (1st edition OS). In particular, this includes the large-scale electrical transmission infrastructure consisting of the double row of high voltage overhead pylons and electrical lines that cross the landscape between Friston and Fristonmoor, further reinforced by local electrical distribution lines as well as many examples of other recent contemporary development which differentiate the landscape today from that of the 19th century, including large scale agricultural buildings, agricultural conversions or 'suburbanisation' and contemporary agricultural practices such as turf growing and modern farming practices and machinery. The Applicant considers that SASES underestimate the influence of the overhead transmission lines which cross the area. The double row of high-voltage overhead transmission lines and associated pylons form notable visual elements in the local setting of the landscape between the village of Friston and Fristonmoor. Due to their large vertical scale and form, the overhead transmission lines notably influence the present-day aesthetic and perceptual (scenic) qualities of the landscape, forming a linear division/boundary in the landscape and having a more encompassing / surrounding influence on the local landscape character of the onshore substations site due its 'deviated' route to the west, north and north-east of the substation area.
27	6.7 Although included within LCA K3, the countryside immediately north of Friston is considered to be representative of the eastern parts of LCA L1, which due to their proximity and transition into the Sandlands LCT are described as being 'somewhat more fine grained', with 'less emphasis on large scale agricultural organisation' and 'a more textured and rich visual experience'.[36] The landscape framework in this part of the countryside is largely unchanged since the first edition OS (Figure 6) and it provides a coherent and attractive setting to the historic northern part of the village.	
28	6.8 The overhead transmission lines which cross the area and the large farm sheds at Redhouse Farm are the only detractors within the landscape but both are features of the countryside. Although visible, the pylons have not diminished the enjoyment of a 'deeply rural and attractive'[37] landscape, including from those parts of the PRoW network which pass beneath them.	
29	***Friston Village*** 6.9 Friston is a small rural village connected by a network of quiet lanes. The village has a loose knit structure which has changed little over the last 100 years (Figures 5 & 6). The B1121, village green and other fields east of	The Rapid Historic Landscape Assessment (RHLA) (SCC, 2019) notes that the settlement in Friston gives the impression of an ad hoc and organic development. The main area of settlement developed slightly to the south from the church and is formed in the classic triangular shape of an infilled green. The Applicant notes that this main area of the Friston settlement is set back at greater distance from the onshore substations than the

ID	Written Representation	Applicants' Comments
	the village green, separate the southern part of the village from its smaller northern part.	dispersed northern edge of the village, separated by the village green, areas of common land around St Mary's Church, housing on Church Road / Hillcrest and Friston House Wood, thereby reducing the effect on this main area of housing in the village.
30	6.10 The northern part of the village features Friston Church (the Church of St Mary Grade II*), Church Farm, which lies to the east of the Church, a scattering of individual properties along the southern side of Church Road to the west of the Church and a parallel row of properties to the south along Hill Crest. The southern property boundary of Friston House (Grade II) joins Church Road, as does a track (also Fp 17) leading to Woodside Farm (Grade II). The northern part of the village is small in scale and has a strong rural character owing to its rural setting on all sides; a combination of fields and Friston House Wood. The finer grain of the landscape immediately north of the village, as described above, is sympathetic to the scale and character of the northern part of the village. In all other directions, the village is bound by larger scale arable fields.	No comments
31	6.11 Friston Church is located at the northern edge of the village within a generous churchyard and its location on an area of slightly higher ground on the edge of the village accentuates the visibility of the church tower. The tower forms a landmark when seen from the landscape to the north. Nestled amongst mature trees, it signals the presence of the village. In particular from Fp 6 which is located on the alignment of an historic route between Friston village and the farms to its north.	
32	The village lies at the centre of a spider's web of PRoWs which run in all directions from the crossroads, and which are based on historical pathways shown on the first edition OS (Figure 6). From Church Road two footpaths lead to the north with a third joining from the east off Grove Road. The	

ID	Written Representation	Applicants' Comments
	Sandlings Walk Long Distance Route runs through the village in an east/west direction.	
33	The existing overhead transmission lines are more than a kilometre distant from the village and, whilst visible, they do no not define the character of the settlement or its setting.	As noted above, the Applicant considers that the overhead transmission lines are notable features in the setting of Friston, and exert an important influence on the way that the landscape is experienced, such as from the PRoWs to the north of Friston which pass directly under the double row of high voltage overhead pylons and electrical lines (VP1 – Figure 29.13a (APP-404)); forming large scale elements crossing the views south from Fristonmoor to Friston (VP5 – Figure 29.17a (APP-408)) or in forming a backdrop in views of Friston village (VP9 – Figure 29.21a (AAP-412)).
34	***Landscape Value*** 6.14 Although this is not a designated landscape it is a valued landscape containing many of the characteristics noted as helping in the identification of a valued landscape[38]. The condition of the landscape is good, and it has a high scenic quality with the only detractors being the overhead transmission lines. It has conservation interest in that it provides a setting for the village and for a number of listed buildings important in the landscape, in particular Friston Church which is listed Grade II*. It is entirely representative of the L1 Heveningham and Knodishall Estate Claylands. The recreational value of the landscape is high containing as it does a network of PRoWs. Perceptually it is a very tranquil landscape with only the overhead transmission lines detracting from perceptions of its tranquillity. Overall value is **medium/high**.	The Applicants assessment is that the value of the Ancient Estate Claylands / LCA L1 Heveningham and Knodishall is **medium** in the area around the onshore substations to the north of Friston. The rationale for this assessment is set out in full in ***Chapter 29 LVIA*** (APP-077) and ***Appendix 29.3*** (APP-567). The local landscape to the north of Friston in LCA L1 does not form part of a designated landscape, is entirely outside the Suffolk Coast and Heaths AONB and other local scenic area designations. The absence of designation does not preclude value, as the LCA will be valued as a resource in the local or immediate environment, but it does indicate that this LCA is of lower landscape value than the coastal landscapes of East Suffolk, such as the Estate Sandlands (LCA K3). The assessment of 'medium' value reflects the lack of nationally valued landscapes (National Parks, AONBs) and locally valued landscape designations, and the level of importance that they typically signify. The landscape is also not subject to protection for its nature conservation value, with a reduced natural heritage value compared to the more 'natural'
35	***Summary*** 6.15 Friston is a small rural village connected by a network of quiet lanes at the centre of a spider's web of PRoWs. Friston Church is located at the northern edge of the village on an area of slightly higher ground within a	

ID	Written Representation	Applicants' Comments
	generous churchyard. The tower forms a landmark when seen from the landscape to the north. Nestled amongst mature trees, it signals the presence of the village.	areas of coastline to the east. It is relatively widespread LCT and notable as the largest landscape character area within Suffolk Coastal and as having no villages of any size, with local recreational value such as walking along PRoW and informal road cycling. Although the local landscape in the Friston area has a strong sense of place and local distinctiveness, the scenic quality has been influenced by detractors such as the agricultural intensification in the post-war period resulting in a larger scale field pattern to the north of the fields on the immediate norther edges of Friston, as well as contemporary influences such as the double row of overhead pylons and electrical lines crossing the landscape forming a large-scale electrical infrastructure influence, a number large-scale modern agricultural buildings (particularly at Redhouse Farm). There is also some intrusion of agricultural 'suburbanisation', with horse paddocks, barn conversions and ranch-style fencing. These detracting features influencing landscape value are described in the ***Applicant's Response to Hearing Action Points*** (Action 24, ISH 2) (ExA.HA.D3.V1). Valued historic landscape features would typically influence the assessed value of the Ancient Estate Claylands LCT, where these individual elements or particular landscape features contribute to value. The historic landscape features identified in the landscape, such as 'the trackway', are also not nationally or locally designated / scheduled for their value. The Applicants accept that extant historic landscape features, namely the historic trackway, moated site and local historic field boundaries, add value and cultural heritage interest, together with the characteristic arrangement of Friston parish (already recognised in Chapter 29 LVIA (APP-077)). It remains the Applicants' assessment however, that the value of the Ancient Estate Claylands LCT should be assessed as 'medium' overall (as per ***Chapter 29 LVIA*** (APP-077)).
36	6.16 Although land north of Friston is within two different LCAs, (LCA L1: Heveningham and Knodishall Estate Claylands and LCA K3: Aldringham and Friston Sandlands the countryside in this area has a coherent character overall and is highly representative of the 'quiet farmland' of LCA L1. It comprises a landscape that is focused on arable farming, with a clear pattern of irregular fields, pockets of woodland and a number of historic farms which feature Grade II listed farmhouses. The LVIA acknowledges this character and the importance of this landscape to the setting of the parish and village of Friston. (para 179) The landscape north of the village demonstrates a number of LCA L1's Special Qualities, also acknowledged in the LVIA (para 103). In particular, the lack of any sizeable settlement or intrusion from modern development, apart from the overhead transmission lines, creates a unifying sense of a peaceful, deeply rural 'backwater'.	
37	6.17 The transition from a larger to a finer grained landscape, that occurs when travelling northsouth towards Friston village is a distinctive characteristic of the countryside north of the village.	

ID	Written Representation	Applicants' Comments
		Based on the Applicants' understanding and extensive experience in the application of GLVIA 3, Landscapes of highest value are typically those for which character is judged to be intact and in good condition, and where scenic quality, wildness or tranquillity, and natural heritage features make a special contribution to the landscape, or where there are important cultural associations. It is the Applicant's assessment that the local landscape of the substations site does not fall into this 'high' or medium-high' value threshold and is more appropriately assessed as 'medium' value on balance.
Landscape Effects		
38	***Introduction*** *7.1*	N/A
39	***Location (siting and micro-siting)*** *7.2 NPS EN-1 highlights the need for 'good design' in the development of energy infrastructure. Careful siting is a fundamental component of good design[40] and is essential in order to produce infrastructure that is sensitive to place. The emphasis on siting in EN-1 reflects the fact that it is very difficult to mitigate harm arising from development in the wrong location.*	The Applicants consider that 'good design' has and continues to be undertaken as part of the ongoing design iteration process. This has been applied at various levels, from the strategic siting; local siting; the landscape design (OLMP) around the substation and within the substation layout itself. In order to identify the most appropriate location to site the onshore substation, National Grids Horlock Rules have been taken into consideration. These represent best practice for the consideration of design and siting of substations. The siting of the substations has avoided nationally designated areas of highest amenity value (AONB). Areas of local designation have also been avoided. Existing habitats such as ancient woodland have been protected.
40	7.3 To assess and compare potential onshore substations sites SPR used a Red/ Amber/ Green (RAG) assessment approach. A review of the RAG approach is contained in Appendix 4. In summary, the RAG assessment was flawed because it: • Failed to include key criteria such as local landscape character and the relationship to settlement. • Applied criteria inconsistently.	

ID	Written Representation	Applicants' Comments
	• Contained double counting. • Weighted certain criteria differently without explanation. • Did not consider all three substations together. • Was an exercise focused on assessing 'the potential risks to proposed development options' rather than the potential impacts of proposed development options.	The siting of the substation has taken advantage of the screening provided by existing woodland features (Grove Wood/Laurel Covert) to minimise intrusion into surrounding areas. In terms of local siting, the co-location of the substations in one location allowed strategic mitigation planting to be focused in one area between the sites and the main receptors. Changes in character and views are focused in one consolidated area, rather than being dispersed over a wider spatial area.
41	7.4 The findings of the RAG assessment are therefore considered to be unsound. They do not display good design in terms of siting and should not have been relied upon to inform the next stage of the substations site selection process. Due to the flawed site selection process, the substations and infrastructure are sited in a location where they would cause severe landscape and visual harm that cannot be adequately mitigated. Moreover, their location necessitates excessively long supporting infrastructure, including elements such as the permanent operational access road (1,700m) and the cable route (9km) both of which have their own landscape impacts.	The Applicants consider that the findings are sound and could be relied upon to inform the site selection process. The RAG assessment does not, however, in itself identify the chosen onshore substation site. It was a tool that allowed sites to be compared and progressed to further assessment stages and considered holistically in terms of all environmental criteria. The RAG assessment does not, however, in itself identify the chosen onshore substation site. The Applicants consider that the RAG assessment is the start of a process of identifying issues, from which further key issues were identified and considered in more detail. Comparative landscape material was then prepared and considered in the AONB Appraisal (***Appendix 4.3***) and the ***Summary Note on Landscape and Visual Impact and Mitigation*** (***Appendix 4.5***), within which there is a discussion of Zone 7 (W1) that identifies the key landscape and visual issues. This material was all undertaken and considered as part of the site selection process. The Applicants are of the view that the 9km cable route for the Projects is not excessive. For context, the cable route length for East Anglia THREE was 36km. During the site selection process the Applicants met with, presented and discussed the site selection and RAG assessments across a series of ETG consultation events in Suffolk with stakeholders, undertaken regularly over the period between summer 2017 to early 2019. These were attended by

ID	Written Representation	Applicants' Comments
		the Applicants, their team of environmental specialists and relevant environmental experts from a range of stakeholders, including from the Councils, Natural England, Historic England and the AONB Partnership. The site selection ETGs included review of all environmental considerations of the alternative zones, including landscape and visual, the RAG criteria and scoring, as well as later AONB appraisals. The ETG undertook site visits to the alternative zones with the stakeholders, both within the AONB and to the west outside the AONB, to see the alternative sites on the ground. By the time Phase 3.5 consultation was undertaken, comparative visualisations of the Grove Wood, Friston and Broom Covert, Sizewell alternatives had been produced, as shown in the ***Consultation Report Appendix 8*** pages 67 to 84 (Document 5.1.8). The alternative sites were robustly considered and challenged, both within these ETG stakeholder meetings; and internally through peer review of the alternatives.
42	7.5 Harmful aspects associated with the location at Friston have been exacerbated by the lack of micro-siting. It is not evident that a design evolution process has been undertaken and as a consequence the substations and ancillary infrastructure appear to have been arbitrarily and unsympathetically imposed upon the existing landscape (refer Figure 10). Section 5.9 of EN-1 highlights the need for projects 'to be designed carefully, taking account of the potential impact on the landscape'[41] as part of the consideration of 'good design, with particular regard to siting. SPR's lack of a micro-siting process has not led to a careful design. Figures 5, 8, 9 & 10 illustrate the unsympathetic layout of the proposed arrangement	A process of micro-siting was undertaken to refine the best location for the onshore substations and National Grid substation as described in ***section 4.9.1.4*** of ***Chapter 4 Site Selection and Assessment of Alternatives*** (APP-052). Six options for the local siting of the two onshore substations and one National Grid substation were identified and presented to stakeholders at a site selection workshop. The six options considered are presented in ***Figure 4.9*** to ***Figure 4.14*** (APP-089 to APP-094). One of the main drivers for the co-location and micro-siting of the substations was to reduce landscape and visual impact. There was a preference for co-locating substations adjacent to and in parallel to the

ID	Written Representation	Applicants' Comments
	relative to existing hedgerows, trees and woodlands, and the pattern/grain of the landscape overall.	existing overhead power line. This is in order to minimise wider character change and effects on more visual receptors over a wider area. The function of the substations can be understood when viewed in association with the overhead line, compared to if they were dispersed and separate from each other and the power line. By co-locating substations next to each other, the substations are perceived as one. This is in contrast to when substations are placed several hundred metres apart, which will result in more conspicuous and dispersed effect. The optimal areas were considered to be immediately adjacent to the overhead power line and near to the diversion towers. The proximity of Friston village to the south of Substation Zone 7, and views from it toward the substation infrastructure, as well as views from surrounding isolated properties, all favour a co-location of all three substations in close proximity to one another i.e. the preferred arrangement in ***Figure 4.15*** (APP-095). This maximises the potential of the surrounding woodland areas (Grove Wood, Old World Wood and Laurel Covert) to provide screening to nearby visual receptors and to expand these woodland blocks with further planting. Siting of substations out with the woodland areas would bring in visual receptors from other residential settlements of Friston, Knodishall, Knodishall Hall and local rural dwellings; users of the local PRoW network; and motorists on the local road network an almost unobstructed view of the substation(s) and these other options were therefore rejected. A co-located/combined arrangement also affords fewer and shorter cable trenches, minimising construction impacts required to connect the substations. It was considered that with the preferred arrangement (***Figure 4.15***), landscape mitigation could be designed and secured more

ID	Written Representation	Applicants' Comments
		effectively. Siting of the substations out with the arrangement proposed would not have the same ability to deliver effective mitigation. The Applicants undertook a masterplanning exercise with the project engineers to co-ordinate the local siting of the substations, drainage (SuDS), access tracks and landscape planting proposals, in order to achieve an optimised layout addressing the technical and environmental constraints of the site and the reasonable worst case Rochdale Envelope at the time of Application. The size of the substation footprints and operational requirements of the electrical infrastructure layouts, limits to some degree, the potential for layouts to be designed relative to existing landscape features, however the design process has sought to minimise direct effects to existing hedgerows, trees and woodlands; concentrating development within the larger scale fields to the north nearer to the overhead lines and to be contained as much as possible between hedgerow network and woodlands at Grove Wood/Laurel Covert in order to take account of the potential impact on the landscape. The Applicants consider that the siting and design of the substations has had due regard to EN-1 need for projects to be designed carefully, that it takes account of the potential impact on the landscape, as part of the consideration of good design, with particular regard to siting. The OLMP demonstrates good landscape design in terms of the sympathetic design of proposed new landscape features, enhancement of woodland areas and restoration of historic field boundaries. The OLMP responds to the objectives of NPS, such as in EN-1, EN-3 through its inclusion of substantial areas of new woodland, species rich grassland and hedgerows, the arrangement of these areas to connect internally on site and connect externally with existing woodlands,

ID	Written Representation	Applicants' Comments
		grasslands and hedgerows in the surrounding landscape, and the contribution they would make through their design to landscape character. The OLMP also addresses local design guidance, including in the Suffolk LCA, through: • The use of locally appropriate native woodland and hedging species. • Design of field layouts to be in keeping with the local field pattern or the historic pattern of boundaries where possible. • There are also opportunities to design locally appropriate planting schemes to reduce the visual impact further. • The option to modify the management of existing hedgerows to retain these boundary features at a specific height. • The location of the development in relation to existing trees that act either as screening or as a backdrop should be carefully considered. • New planting designed to integrate the development into the character of the landscape and consists of both backdrop and screening planting. • Increasing the stock of hedgerow trees. • Increasing the extent of woodland cover, with effective management. With regards to the substation layout design, more space efficient solutions have been identified by the Applicant within the preferred arrangement, with a reduced substation footprint of 170x190m, lower buildings and infrastructure heights, and lowered datum height of buildings and external electrical equipment. The landscape and visual impact will be minimised by avoiding the use of tall structures and buildings wherever possible. The

ID	Written Representation	Applicants' Comments
		details of these refinements are set out in the ***Project Update Note*** (REP2-007) submitted at Deadline 2 and the ***Deadline 3 Project Update Note*** (REP3-052). The Applicants consider that these ongoing, iterative design changes to the substation design will reduce landscape and visual effects identified in the LVIA. Through the ***Substations Design Principles Statement*** (submitted at Deadline 4, document reference ExA.AS-28.D4.V1), and the previous ***Outline Onshore Substation Design Principles Statement*** (REP1-046), the Applicants are committing to further design review of the design aspects of substation infrastructure, including design details such as the colour, form and materiality of buildings, fencing and ground cover to further minimise landscape and visual effects.
43	7.6 The consequences of the flawed site selection process, the lack of careful design in micro-siting, and the inappropriateness of the location of the substations overall, are: • The loss of a substantial area of tranquil, open and deeply rural countryside; • Development that conflicts with the prevailing unified character of the surrounding landscape; • A complete change to the character of Friston, from a rural village to a village defined by substations and ancillary infrastructure. Harming to the village includes harm to the landscape setting of Friston Church (Grade II*) and to the approaches into the village. • Harming the character and functionality of the PRoW network, including through the severance and permanent stopping up of PRoWs.	The Applicants provide comments to each of these impacts in turn in more detail below.

ID	Written Representation	Applicants' Comments
	• The need for an excessively long permanent operational access road, to be constructed between the B1121 and the substations (1,700m long) (Figure 5). • The need for a 9km long cable route.	
44	7.7 The above impacts are described in turn in more detail below.	N/A
45	***The loss of a substantial area of tranquil, open and deeply rural countryside*** *7.8 The scale of the proposed development is substantial. It comprises 3 new substations, 3 cable sealing end compounds, a 1,700m long road, and associated infrastructure (including a new pylon and perimeter fencing). The combined footprint of the main components[42], the operational access road, and the land which would not be returned to agriculture (Figure 9) i.e. the overall area subject to permanent development & change, is over 40 ha.[43] By way of comparison, the combined footprint of the nuclear power stations at Sizewell A and B (Figure 1) is 36.5 ha.[44]* *7.11 The tranquillity of this part of the countryside would not only be disturbed by the visual changes resulting from the construction of the substations and associated infrastructure but is also likely to be disturbed by noise generated from the substations. EN-5 describes the potential for such noise from substations 'Audible noise effects can also arise from substation equipment such as transformers, quadrature boosters and mechanically switched capacitors. Transformers are installed at many substations, and generate low frequency hum. ... Noise may also arise from discharges on overhead line fittings such as spacers, insulators and clamps'.[46] Adverse noise effects are considered in more detail in other expert reports.*	The Applicants consider that the comparison drawn by SASES between the areas occupied by the main components of the projects substations with Sizewell A and B Nuclear Power Stations is wholly misleading. The Applicants note that the combined footprint of the substations and cable sealing end compounds is 12.7ha. By way of comparison, the combined footprint of the Sizewell A and B Nuclear Power Stations is 36.5ha. In other words, the development footprint of Sizewell A and B is considerably larger and is not comparable to the developed area proposed to the north of Friston, and not as that presented by SASES. The majority of the 40ha area referred to by SASES as subject to permanent development and change is not subject to 'development', per se, but will be subject to changes in land-use through, i.e. land that will not be returned to agriculture but will be subject to other landscape diversification proposals through the OLMP. These are considered to be beneficial changes through habitat creation and diversification, from the large-scale intensive agricultural land-use, for example through the establishment of grassland, SuDS, wetland, hedgerows and woodlands. Despite the levels of mitigation and the degree of landscape integration achieved over time provided by the OLMP proposals, the Applicant acknowledges the material and significant change in landscape character that will occur within the substations area and the retained landscape

ID	Written Representation	Applicants' Comments
46	7.9 Due to their scale and location the proposals would result in the complete loss of a substantial area of tranquil, open and deeply rural countryside. It would also result in substantial harm to the tranquil, open and deeply rural character of the retained landscape surrounding the substations. The proposals would conflict with the prevailing unified characteristics of the landscape north of Friston, which is highly representative of LCA L1 and its 'special qualities'. The introduction of over 12ha of new electrical infrastructure would mean this landscape was no longer 'focused on farming' with 'little intrusion from modern development' but defined by modern development and large-scale electrical infrastructure. The coherent landscape pattern of irregular fields and their transition in scale towards the village would be lost. The unified character of the landscape and the sense of being within a peaceful, deeply rural 'backwater' would be lost.	surrounding the substations, which is identified and assessed in ***Chapter 29 LVIA*** (APP-077). These significant effects on landscape character are assessed as occurring within approximately 1km of the projects substations within a localised area of the Ancient Estate Claylands LCT (01) to the north of Friston. The Applicant considers that although these effects on landscape character are significant at the local level, wider character change is avoided due to the siting and design of substations and the OLMP. Although the OLMP mitigation measures cannot fully avoid significant landscape character effects, however they will, over the long-term, reduce effects on local landscape character. The Applicants do not agree with the use of the term 'special qualities' to describe the key characteristics of the landscape north of Friston, representative of LCA L1 and considers that the term 'special qualities' misleading and should be reserved for assessment of designated landscapes.
47	7.10 As described in the submitted ES, it is not only a substation building that would be constructed in each compound, but also 'electrical equipment including power transformers, switchgear, reactive compensation equipment …, harmonic filters, cables, control buildings, communications masts, backup generators, access, fencing and other associated equipment, structures or buildings'.45 Introducing this array and overall quantity of infrastructure into the middle of the countryside would severely diminish its rural character. The character of the landscape would no longer be 'peaceful' with the character of a 'deeply rural 'backwater'' but industrial/utilitarian in character. This new utilitarian character would prevail across the landscape between the substations and Friston village. It would also extend into the wider countryside east, north and west of the site, currently characterised by its historic farmsteads.	

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48	7.11 The tranquillity of this part of the countryside would not only be disturbed by the visual changes resulting from the construction of the substations and associated infrastructure but is also likely to be disturbed by noise generated from the substations. EN-5 describes the potential for such noise from substations 'Audible noise effects can also arise from substation equipment such as transformers, quadrature boosters and mechanically switched capacitors. Transformers are installed at many substations, and generate low frequency hum. ... Noise may also arise from discharges on overhead line fittings such as spacers, insulators and clamps'.[46] Adverse noise effects are considered in more detail in other expert reports.	
49	***Adverse impact on the character of Friston village*** 7.12 The footprint of the proposed SPR and NG substations and infrastructure would dwarf the village of Friston. As outlined above, the permanent development footprint would be approximately 40 ha, and the substations and cable sealing end compounds alone would occupy 12.71 ha. The village footprint is only 15.5ha. The striking disparity between the scale of the proposal and the scale of the village, in particular the disparity with the northern part of the village centred on the church, is evident in Figures 5 & 9. I have prepared these figures because there are no figures or drawings within the applicant's ES which show both the village and the proposed development.	The Applicants consider that the comparison drawn by SASES between the area occupied by the main components of the projects substations and Friston village is wholly misleading, for reasons as outlined above. The majority of the 40ha referred to are considered to be beneficial changes through habitat creation and diversification from the large-scale intensive agricultural land-use. The Applicants refer to Figure 4 of the ***OLEMS*** (REP3-030) within the ES that shows both Friston and the proposed development. Lowering of the datum height of buildings and external electrical equipment at the location of the onshore substations and National Grid substation (as summarised in the ***Project Update Note for Deadline 3*** (REP3-052 , has reduced the massing, apparent height and amount of buildings and external equipment visible in a number of key views. This includes Viewpoint 2 Friston, Church Road in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1), where there is a notable reduction in the visibility of both onshore
50	7.13 The ES includes visualisations which illustrate how the proposals would harm the character of the village, through changes to its rural setting.	

ID	Written Representation	Applicants' Comments
	These changes would be felt in particular from within the village and its approaches, including from: • Within the village, looking across the countryside to the north of the village e.g. LVIA Vp 2 (Church Road)47. (Relevant LVIA Vps have been added to my Figure 5) • From the countryside north of the village, including from footpath approaches into the village, looking back towards the village and Church. E.g. LVIA Vp 5 (Junction of Fps 15 and 17)48 • From the main vehicular approach into the village E.g. LVIA Vp 8 (B1121 north of the village);49 LVIA Vp 9 (B1121 south of the village);50 and LVIA VP 14 (Grove Road)51.	substations and the National Grid substation, at Year 1 and Year 15. In particular, at Year 1, there is notably reduced visibility of the eastern substation with its lower datum height of buildings and external electrical equipment; reduced massing and height of equipment visible in the western substation; and more screening of the National Grid substation due to the retained woodland. Additional areas of small 'Covert' field edge woodland planting are proposed alongside field boundaries to the north of Friston (south of the onshore substation location) and provide additional screening in Year 15 views from the northern edge of the village, such as in Viewpoint 2 Friston, Church Road in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) while retaining the open setting of the village and providing layered screening of the onshore substations. Lowering of the datum height of buildings and external electrical equipment, combined with reduction in the maximum heights of the buildings and external equipment at both onshore substations, has also notably reduced the amount of the substation buildings and external equipment visible in the backdrop to Friston in the view from Viewpoint 9 - B1121 Aldeburgh Road, south of Friston in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1). Only limited sections of the upper parts of the GIS substation building and harmonic filters of the western substation will be visible behind housing in Friston in the view, with notably reduced scale and massing and some screening by existing vegetation. The reduction in visibility of these elements results in less contrast with the smaller scale development and focal points such as Friston Church in the view. The colour of the substation
51	7.14 LVIA Vp 2 is taken from the northern edge of the village on Church Road. It is an attractive rural setting for the village. The transmission lines at 1km distant are detractors but they are not prominent. In contrast the proposed development would dominate this view because: • The scale of the development and its close proximity to the village means that it would be seen to occupy almost the entire gap between Grove Wood (east) and Friston House Wood (west). The visualisations are presented with a horizontal field of view (HFoV) of 53.5° and the substations would be prominent in the vast majority of this field of view. • The development would be located at a higher elevation to the village; the proposed ground level of the substations is between 18.2m and 20.7m AOD52, whilst the village is at 8-15m AOD). • The development features numerous elements (up to 18m high53) that would be visible above the horizon and conspicuous on the skyline.	

ID	Written Representation	Applicants' Comments
	• The development's industrial character would be entirely incongruous and at odds with the attractive, small scale, rural character north of the village.	buildings can also be designed to further mitigate visual effects in this view. The Applicants refer to the ***LVIA Assessment Addendum*** and ***Photomontages*** submitted at Deadline 4 (document reference ExA.AS-7.D4.V1) The Applicants have provided additional photomontages at Deadline 4 in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) which provides updated visual assessments of the Projects onshore substations and National Grid infrastructure, in light of these design updates to the substations and OLMP. The Applicants notes that Viewpoint 5 is not the only visualisation included in the ES which has a view of the church from the PRoW network north of the village – further visualisations are included in ***Appendix 24.7*** (APP-519) from cultural heritage viewpoints CHVP3 and CHVP4, updated versions of which have been submitted at Deadline 4 as part of the ***Heritage Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-11.D4.V1) to include additional planting to the north of the substations. The visualisations from these viewpoints all illustrate the scale of change, mitigation planting and the impact on views south towards the village from the local PRoW network to the north of the village. Given the route of the 'trackway' PRoW through the onshore substation location, avoidance of a partial loss of this historic trackway and views of Friston Church is not possible (such as B-E in the SASES written representation). Views of the church will however be retained from the southern section of the PRoW. With regards to the influence of the substations from the main vehicular approaches to the village, most notably the B1121 south of the village (VP9), the Applicant notes with reference to ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference
52	7.15 From within the countryside north of the village, on Fps 6 and what would remain of Fp8, views of the local landmark of Friston Church would be replaced by views of substations and infrastructure. It is from Fps 6 and 8 where the relationship between the church and the countryside, as experienced from a key approach into the village, is most easily appreciated (see Photographs B – D (Figure 13) which provide a sequence of photographs from Fps 6 & 8 looking towards the church). LVIA Vp 5 is the only visualisation, included in the LVIA, which has a view of the church from the PRoW network north of the village (although in this view the church is located at the very edge of the page, away from the main substations, which would not be the case in views from Fps 6 and what would remain of 8). Nevertheless, the visualisation from Vp 5 illustrates the large scale of the change and the severity of the impact that the proposals would have on views back towards the village. The countryside setting to the church and the village would be lost. Along Fps 6 and what would remain of 8, the church would no longer be visible as an attractive landmark, signalling the presence of the village, but would become obscured behind the substations and infrastructure. These impacts are considered from a built heritage perspective elsewhere in SASES's submissions.	
53	7.16 The scale of the proposal and its proximity to Friston would also be felt from the main vehicular approaches into the village, most notably on the B1121 south of the village where the proposal and the northern part of the village would be seen together (LVIA Vp 9). Currently the transmission lines form a faint detractor clearly set at some distance from the village. The	

ID	Written Representation	Applicants' Comments
	height and spread of the proposed development – seen above the existing village buildings - is such that it would dominate the small-scale features in the view and establish a new dominant industrialised backdrop to the village. There would be no sense of separation between the village and the development which would appear to be immediately behind the village.	ExA.AS-3.D4.V1) that the existing overhead transmission lines and pylons form much more than a 'faint detractor' in the backdrop the village. They provide a large scale, clear and detracting influence to the character of the village experienced in this view. With reference to ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) the Applicants note the reduced effects arising from the substations due to the lowering of the datum height of buildings and external electrical equipment and reduction in the maximum heights of the infrastructure, resulting in limited visibility of only the upper-most elements, at considerably lower scale than the visible overhead pylons. Views from other approaches to the south of Friston also demonstrate a similarly limited effect on the character of the village experienced from approaches on the PRoW network to the south, such as VP7 (***Figure 29.19e*** (APP-410), VP13 (***Figure 29.25e*** (APP-416)) and CHVP9 (***Appendix 24.7*** (APP-519))***, Figure 14f***); and from the minor road approach to the south at CHVP2 (***Appendix 24.7, Figure 7f***). The Applicants note the limited adverse impact on the character of Friston village experienced in views from within the village itself, where there is very low or no visibility and therefore limited impact arising from the substations. These include VP6 Friston Village Green ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1)); CHVP1 PRoW south of Friston Church (***Appendix 24.7, Figure 6f***); and CHVP8 Friston War Memorial (***Appendix 24.7, Figure 13f).***
54	7.17 Although the development and village would not be seen together at Vps 8 (B1121 north) and 14 (Grove Road), the development would be seen as a prominent addition to the landscape, shortly before entering the village, and therefore there would be an awareness of its close proximity to the village.	
55	7.18 People approaching the village on all of the main vehicular approaches (B1121 north and south, and Grove Road), and the footpath approaches from the north, would be very aware of the scale of the proposed development and its close proximity to the village. There would be an ever-present awareness of the development. As such, the village would no longer have the character of a rural village but instead would be perceived as a village defined by the presence of by the substations and electrical infrastructure.	
56	***PRoW network*** 7.19 As well as harming the character of the PRoW network, through the changes described above, the proposals would also impede the functionality/access to the countryside provided by the PRoW network north of Friston. During its construction, the development (overall) would require	The Applicants have provided an updated ***Outline Landscape and Ecological Management Strategy*** (OLEMS) at Deadline 3 (REP3-030) which describes and illustrates changes to the Outline Landscape Mitigation Plan (OLMP) including the PRoW network to allow for the updated substation arrangements.

ID	Written Representation	Applicants' Comments
	temporary diversions for 26 PRoWs.[54] On a permanent basis, the development would necessitate the permanent stopping-up and diversion of 2 PRoWs55 north of Friston village: Fp 7 57 - 87m section would be stopped-up and realigned. 7.20 The loss of Fp 6 is particularly to be regretted as it is a long-established route that aligns directly to the church and represents the historic parish boundary. The proposed new PRoW north of the village cannot mitigate the harm caused by the loss of Fp 6, because it would not have the same relationship with Friston Church and would not allow for the same sequence of views towards the church which are currently experienced from Fp 6. In addition, it would be located alongside a Grove Road instead of passing through open countryside. 7.21 In addition to the permanent stopping up of Fps 6 and 7, the permanent operational access road (see below) would also sever Fps 16 and 17. Fp 17 is one of two walking routes between the countryside north of Friston and the village. The other is Fp 6, which, as described above would be lost altogether. Currently walkers do not need to cross any roads on this part of the PRoW network. Users of Fp 17 would have to cross the access road on the route between Friston and the countryside, and wider PRoW network at Fristonmoor. The whole experience of the using Fp 17 would be altered as there would be a constant awareness of the substations. (LVIA Vps 1 & 5).	The OLMP seeks to deliver gains for public amenity by including enhanced access through PRoW proposals. There are three PRoW (ID number: E-354/006/0, E-354/007/0 and E-260/017/0)) in the location of the onshore substation that will require permanent re-routing, two of which do not interact directly with the substations but are proposed to assist in using existing hedgerows to screen the substations from PRoW users and reintroduce an historic field boundary and foopath. The remaining PRoW which is permanently re-routed due to direct interaction with the substations can be mitigated through the development of a number of PRoW options (establishing a network) in the area surrounding the onshore substation and use of appropriate landscaping. Users of the PRoW network around the onshore substation will be given the option of diverted routes, and therefore retain the option to walk around the area on longer, medium or shorter routes. The existing PRoW, and proposed diversions to these routes, is shown in Figure 8 of the OLMP. A short PRoW diversion, a medium PRoW diversion and a longer PRoW diversion are included in the proposals for the permanent diversion of PRoW ID number E-354/006/0. A short diversion leading from the existing PRoW to connect to the PRoW to the west (E-260/017/0), is proposed for short walks, connecting people back into Friston for amenity walks associated with dog walking which is an important recreation and amenity asset for the village. A longer diversion leading from the existing PRoW (E-354/006/0) is proposed to the east along a grass headland on the inside of the existing hedgerow offset from Grove Road. Beyond this the diverted PRoW turns northwards for a short distance (diverging from Grove Road) before turning east such that it tracks parallel to, but offset by approximately 20m from,

ID	Written Representation	Applicants' Comments
		Grove Road within an existing field and areas of new planting. Early planting to the south of the PRoW and a strip of early planting to north of the PRoW is intended to provide screening at this location, where the PRoW passes the onshore substation location. The diverted PRoW then forms new/joins existing paths through Laurel Covert, tying into the track running east-west within Laurel Covert (which in itself will provide existing screening). The diverted PRoW will then extend the diversions across field edges north of Laurel Covert to Fareacres Farm, connecting to an existing PRoW to Knodieshall and west under the overhead lines to Little Moor Farm, where it connects to the existing PRoW to the north of the onshore substations near Fristonmoor. This is seen as the optimum route to divert walkers away from construction works and the onshore substation and National Grid infrastructure; along a route that retains some of the open/rural experience and added diversity through new wooded sections to the route. Figure 3 of the OLEMS (REP3-030) illustrates the routes of the proposed PRoW diversions. The permanent diversion of PRoW ID number E-354/007/0 is to ensure PRoW users have the benefit of the existing hedgerows in the vicinity of the onshore substation in screening views of the onshore substation and National Grid infrastructure. The permanent diversion of PRoW ID number E-260/017/0 is a realignment of the existing PRoW further west, in order to re-establish a historic field boundary / historic footpath. The proposed permanent diversions will be in place prior to the existing PRoW being stopped up. Any temporary diversions to be used during the construction phase will be agreed post-consent with the relevant highway authority.

ID	Written Representation	Applicants' Comments
		Further details regarding the management of PRoWs, including temporary management measures are detailed within the ***Outline PRoW strategy*** (REP3-024), secured under the requirements of the ***draft DCO***,(REP3-011).
57	***Permanent operational access road*** 7.22 The proposed permanent operational access road would be up to 8m wide, and up to 1,700m in length, and would be a significant piece of infrastructure in its own right. At up to 8m wide the road would be substantially wider than the B road (B1121) which it would join (5.5m wide carriageway at the location of the proposed new junction). The new road would be alien to its surroundings and cause harm by altering the composition of the landscape, its structure and the current seamless connectivity. The road would create a new hard edge within the countryside. Although it would be used less frequently than a public highway, it would still have an inescapable presence in the landscape.	The Applicants consider that the description of the operational access road as having an *'inescapable presence in the landscape'* is an overstatement of its impact on the landscape. The landscape and visual impact of the access road has been mitigated by following existing boundary features or routing near to existing boundary features where possible, through landscape that is influenced by the existing overhead transmission lines and through the introduction of proposed new hedgerows which line either side of the access road between the B1121 road junction and the substations, along with sections of linear edge woodland planting at key locations. The Applicants have also committed to a reduction in width of the operational access road at Deadline 1.
58	***Cable Route*** 7.23 The proposed cable route has been forced to snake around existing settlements, forcing it to cross the SLA, removing TPO woodland (SCDC/87/00030), harming the landscape setting of Aldringham Court (Grade II), and temporarily disrupting other resources including the promoted Sandlings Walk. The excessive length of the cable route (9km) is only required because of the remote location of the substations. If the substations had been located close to the existing substations and electrical infrastructure (such as the existing Galloper substation which serves other offshore wind turbine development), or in another coastal location, then roughly 92 hectares of the ODA would not have been required (Figure 4).[58] 7.24 The long cable route involves disruption and destruction across a large area of landscape only to end up with the substations being located in an	A number of mitigation measures ensure that the effect of the cable installation has been minimised. First and foremost, the Applicants have committed to undergrounding of onshore cables. This avoids operational impacts on the landscape (including the SCHAONB) as there is no above ground infrastructure retained (with the exception on small marker posts). Construction stage impacts have been minimised through both the siting of the onshore cable route and its design. The route ensures that changes during construction generally occur within intensively farmed arable land, where farming practices already influence landscape qualities. Direct changes to landscape elements, such as heath & woodland are generally avoided. In order to minimise construction effects, the applicant has committed to a parallel alignment of the two 32m corridors through the AONB (***Appendix 6***

ID	Written Representation	Applicants' Comments
	inherently rural and unsuitable location. A long cable route is only justified when it results in reaching a suitable site for the substations.	***Figure 1a-c***) (REP1-090). Installing ducts for both projects in parallel will minimise the effects of simultaneous construction (Deadline 1 Submission - ***Applicants' Responses to Examining Authority's Written Questions Appendix 6 Illustrative Open Trench and Trenchless Onshore Cable Route***) (REP1-090). The cable alignment also minimises the number of hedgerow crossings and utilising existing gaps in field boundaries. Where they are unavoidable, there will be a reduced onshore cable route width of 16.1m at important hedgerow crossings (***Appendix 6, Figure 1b***). Sections of hedgerows across the cable route that are physically impacted by the cable installation will be reinstated. It is anticipated that reinstatement works will take place within 12 months of completion of the relevant stage of the onshore works (APP-054) of the ES). The Applicants consider that the 9km length of the cable route (which is notably shorter than other recent cable route construction projects, such as East Anglia THREE at 36km and is justified by the need to avoid significant landscape and visual effects of further substation/infrastructure development within the nationally designated SCHAONB landscape. As described in ***Chapter 4 Site Selection and Assessment of Alternatives*** (APP-052), the feasibility of an alternative substation site at Broom Covert, Sizewell was explored during the site selection process, close to 'the existing substations and electrical infrastructure', but within the SCHAONB. Broom Covert is located in an area close to Sizewell Power Station, where the landscape character of the SCHAONB has already been influenced and adversely affected by the development of large scale energy generation and transmission infrastructure. The potential effects of siting the substations within Broom Covert, on the landscape and scenic qualities of

ID	Written Representation	Applicants' Comments
		the AONB, would be further exacerbated by the proximity to this existing infrastructure. The effects combining to create a greater overall in-combination impact on the AONB in this locality. New substations at Broom Covert have the potential to overwhelm this part of the SCHAONB and to replace the inherent character and prevent opportunities to enhance this part of the designated area. It would also further populate with energy transmission development the corridor of SCHAONB land between Sizewell and Leiston, with potential to sever the landscape character connectivity north and south of the Sizewell area. This 'severance' was considered to be of fundamental and material harm to the SCHAONB landscape; potentially being split into a northern and southern area by an infrastructure 'corridor' extending inland from the coast. This 'severance' effect on the SCHAONB would not have been possible to mitigate due to its fundamental position within the SCHAONB.
59	***Susceptibility to large-scale electrical infrastructure*** 7.25 The susceptibility to change of a landscape is: 'the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or areas, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies'.[59] The assessment of susceptibility must be tailored to individual projects. It 'should not be recorded as part of the landscape baseline but should be considered as part of the assessment of effects'.[60] 7.26 The susceptibility of a landscape to a particular kind of development depends on the characteristics of the development and the characteristics	N/A

ID	Written Representation	Applicants' Comments
	of the landscape. The following landscape characteristics are good indicators of landscape susceptibility to large-scale electrical infrastructure. • Scale: Large scale landscapes are likely to be less susceptible to large-scale electrical infrastructure than small scale intimate landscapes. Landscapes in which small scale elements are frequently found are likely to be more susceptible to large-scale electrical infrastructure. • Enclosure: Landscapes with a high degree of enclosure are likely to be less susceptible to large-scale electrical infrastructure than open landscapes. • Landform & Topography: A smooth, convex or flat landform is likely to be less susceptible to large-scale electrical infrastructure than a landscape with a dramatic rugged landform, distinct landform features or pronounced undulations. • Land Cover Pattern: Simple, regular landscapes with extensive areas of uniform ground cover are likely to be less susceptible to large-scale electrical infrastructure than landscapes with more complex or irregular land cover. • Settlement Pattern and Density: More sparsely settled areas are likely to be less susceptible than more densely settled areas or areas with a historic and/or rural village as there will be opportunities to site large-scale electrical infrastructure so that it does not dominate distinctive settlements. • Large Scale Visible Built Structures: Landscapes that contain large scale infrastructure, major communications routes and large-scale developments are less susceptible to large-scale electrical infrastructure although development needs to be carefully sited to avoid visual clutter or cumulative impacts. Landscapes where there is little intrusion from modern development are more susceptible to large-scale electrical infrastructure.	

ID	Written Representation	Applicants' Comments
	• Landmark features: Historic landmarks that generate important views (e.g. to distinctive church spires/towers), or views to and from historic features in the landscape increase susceptibility. • Remoteness and Tranquillity: Relatively remote or tranquil landscapes, due to freedom from human activity and disturbance which have a perceived naturalness or a strong feel of traditional rurality, tend to be more susceptible to large-scale electrical infrastructure.	
60	7.27 It is important to note the difference between the impact of transmission corridors and the substations. Transmission corridors – when seen in the landscape – are linear infrastructure which by their nature are passing through the landscape. Whilst they can have a significant impact on the character of the landscape, they do not require a large footprint. In contrast, the substations require a very large site (over 12 ha) which would replace the existing landscape and consequently would define the landscape in a different way to a corridor, which is passing through the landscape.	The Applicants note the difference between the double row of high-level transmission lines and pylons when compared to the proposed extent and density of ground level infrastructure. The influence of the double row of high voltage overhead pylons and electrical lines on landscape character arises from the vertical scale / form of the pylons and linearity of the route/electrical lines crossing the landscape. In the area north of Friston, however, the route of the pylons and electrical lines does not follow a straight line passing the landscape, but instead turns at the deviation towers near Peartree Farm. Its deviated route increases its encompassing / surrounding influence on the local landscape character of the onshore substations site because the pylons are situated both to the west, north and north-east of the substation area. The existing pylons are of much larger vertical scale than the proposed substations (up to 59.2m above ground level), and in terms of vertical scale have a greater visual prominence, with a wider zone of visibility; although their high level and wide spacing means that they tend to be perceived as being above the human scale and traversing the landscape, rather than 'within it', when compared to the proposed footprint and density of lower height, ground level substation infrastructure.

ID	Written Representation	Applicants' Comments
		The influence of the high voltage overhead pylons and electrical lines on landscape character is noted as a form of visual intrusion in the Suffolk Coastal Landscape Character Assessment (LCA) (2018). Although not specifically referring to the area north of Friston, but more generally describing their influence on the Estate Sandlands and Estate Claylands LCTs, it notes the *"double row of giant pylons'*, as being "*detracting features passing north of Aldringham"* and as having a *"substantial negative impact in the more open areas"*, and that they "*distort the sense of scale within the landscape"*. It also notes *"views of 20th century development are less attractive, especially when oversailed by the pylons"*; and as being "*dominant where they sail overhead"* but that *"away from their corridor they are often not seen owing to effect so many parcels of woodland"*. The visual containing influence of woodland around the onshore substations is noted in the ES Chapter 29 (APP-077), which together with the relatively lower height of the substation infrastructure proposed, results in a relatively contained geographic extent of effects (within approximately 1.0km).
61	7.28 Scale: The SPR and NG substations and infrastructure would be located in a part of the countryside where the scale of enclosure begins to decrease. They are not part of a large-scale landscape. Although in the northern and western parts of the SPR&NG ODA there are larger-scale agri-businesses, the landscape towards Friston village is 'somewhat more fine grained, there is more pasture and less emphasis on large scale agricultural organisation which gives rise to a more textured and rich visual experience.'[61] Field shapes are irregular and there is considerable variation in field sizes with smaller fields around Friston. There are frequent small-scale features in views north of the village. Medium Susceptibility	Scale: The projects and NG substations are largely located within an area with large-scale fields where the influence of modern, large scale farming land-use is prevalent to the north of the smaller enclosures that are immediately north of Friston. The Applicant notes that the reduction in the footprint of each of the onshore substations and their resulting relocation (as summarised in the ***Project Update Note*** (REP2-007) submitted at Deadline 2) has further contained development within this large-scale area and minimises effects on the smaller-scale enclosures immediately north of Friston. Enclosure: The Applicants note agreement that the woodland in the landscape surrounding the site of the SPR and NG substations provides notable enclosure and prevents some long-distance views, particularly

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	7.29 Enclosure: There is woodland in the landscape surrounding the site of the SPR and NG substations which provides some degree of enclosure and prevents some long-distance views. Medium Susceptibility. 7.30 Landform & Topography: The SPR and NG substations and infrastructure would be located on a very gently undulating landscape, but at a higher elevation than Friston village. To create the extensive level areas required for large-scale electrical infrastructure, it would require earthworks that would run against the grain of the landscape and would include a new bund 1.5m higher than the internal substation level. Medium Susceptibility. 7.31 Land Cover Pattern: Most of the site and the surrounding landscape is in arable production and this reduces its susceptibility. Low Susceptibility. 7.32 Settlement Pattern and Density: Friston is a historic village with a strong and attractive relationship to the surrounding landscape. The surrounding landscape is susceptible to large-scale electrical infrastructure which would dominate the settlement. High Susceptibility. 7.33 Visible Built Structures: The landscape in which the site is located has little intrusion of large-scale infrastructure except for the existing transmission lines. Medium/high Susceptibility. 7.34 Landmark features: Friston Church is an historic landmark feature. The adjacent landscape is susceptible to large-scale electrical infrastructure which would harm the setting of the church. Medium/high Susceptibility 7.35 Remoteness and Tranquillity: Despite the presence of the transmission lines the landscape surrounding the site has a tranquil, deeply rural quality which would be severely harmed by large scale electrical infrastructure. Medium/high Susceptibility.	Grove Wood/Laurel Covert in views from the east, north-east and south-east. Landform & topography: The Projects and NG substations are located on gently undulating landscape landform likely to be less susceptible to large-scale electrical infrastructure, with gently rising landforms to the east, north and west (Figure 7) providing visual containment. The Applicant has lowered the datum height of buildings and external electrical equipment at the location of the eastern onshore substation and National Grid substation (as summarised in the ***Project Update Note for Deadline 3*** (REP3-052). Land Cover Pattern: No comments. Settlement Pattern and Density: The settlement in Friston gives the impression of an ad hoc and organic development. The main area of settlement developed slightly to the south from the church and is formed in the classic triangular shape of an infilled green. The Applicant notes that this main settled area of the Friston settlement is set back at greater distance from the onshore substations, than the dispersed northern edge of the village, as separated by the village green, areas of common land around St Mary's Church, housing on Church Road / Hillcrest and Friston House Wood, thereby reducing the susceptibility of this main settled area the village. Landmark features: the significance of the Church of St. Mary, Friston, (and the reason for its designation as a Grade II* Listed Building) primarily lies in the medieval fabric of the church, which has architectural, archaeological, artistic and historic interest. The fabric of the church is not susceptible to change arising from the project substations and NG substation. The immediate setting provided by the churchyard and its setting as an important building within the village of Friston are of low susceptibility to change, due to position of the project substations and NG substation well

ID	Written Representation	Applicants' Comments
	7.36 Consistency with landscape planning policies and strategies. With regard to the Strategy Objectives for LCA L1[62] large scale electrical infrastructure on this site would not protect: • The unspoilt, quiet, and essentially undeveloped rural character of the area, • The prevailing character of the existing settlement; nor • The plateau landscape from visual intrusion. 7.37 The development would not comply with national policy for energy infrastructure, regarding the application of 'good design', as the proposals: • Have not demonstrated good design in terms of siting relative to existing landscape character. • Have not been designed carefully with regards to micro-siting and the potential impact on the landscape. 7.38 In summary, the overall susceptibility of the landscape to the proposed development is medium/high.	outside this immediate setting. The church can be experienced as a landmark feature in views from the surrounding landscape which allow the church to be appreciated in its historic role as the spiritual and physical focal point of its parish and it is this aspect of setting which is susceptible to changes arising the project substations and NG substation. Remoteness and Tranquillity: The landscape of the substation site is not considered to be 'remote' or to have any particular 'sense of remoteness', due to its proximity to habitation, modern large-scale agri-business land use and modern infrastructure, including roads and overhead transmission lines. The landscape has been transformed by the influence of people, which limits any sense of remoteness. The Applicant accepts that the tranquil, rural qualities of the local landscape are susceptible to changes arising from the project substations and NG substations, however it notes that the landscape at the substation site is not designated for any special qualities of remoteness or tranquillity. Consistency with landscape planning policies and strategies: The Applicant notes that the OLMP associated with the onshore substations will meaningfully contribute to the other strategy objectives for LCA L1 including • Management of areas of semi-natural woodland through appropriate woodland management schemes. • Management of hedgerows to retain and restore the pattern of network of field boundaries. • Plans for enhancements to biodiversity in this highly agricultural landscape. The Applicant also notes that the siting of the onshore substations next to the overhead lines and in an area that is visually contained by woodland

ID	Written Representation	Applicants' Comments
		contributes to mitigating the effect of development on the plateau landscape from visual intrusion of development. The Applicant notes agreement between the assessments in the LVIA and SASES that the overall susceptibility of the landscape to the proposed development is medium/high. The Applicant considers that any rural landscape would be likely to have a relatively high susceptibility to the scale of development proposed and that the site selection in a landscape of medium value avoids significant effects on the qualities of the most highly valued landscapes in East Suffolk within the SCHAONB.
62	***Conclusion*** 7.39 The sensitivity of the local landscape to the development proposed is medium/high (the result of the combination of the medium/high value placed on the site and the surrounding landscape and its medium/high susceptibility to the proposed changes). 7.40 Considering all the factors identified above, the overall magnitude of change that would result from the proposed development of one SPR substation and the NG substations and infrastructure would be high, and the nature of the change would be adverse. The overall effect upon the character of the local landscape and the setting of Friston village would be major adverse both during construction (temporary effect) and once operational (permanent effect). 7.41 The ability of the proposed mitigation planting to lessen this impact is limited. Whilst it will, eventually, reduce some views of the equipment within the substations it: • will not restore the unspoilt, quiet, and essentially undeveloped rural character of the area;	The LVIA in ***ES Chapter 29*** (APP-077) also finds that the sensitivity of the local landscape to the changes arising from the proposed development is medium-high, however it finds that this primarily results from the medium-high susceptibility to the proposed changes and considers that the value of the landscape is medium. The Applicants acknowledges the material and significant change in landscape character that will occur within the substations area and the retained landscape surrounding the substations, which is identified and assessed in the LVIA in ***ES Chapter 29*** (APP-077). These significant effects on landscape character are assessed as occurring only within approximately 1km of the substations within a very localised area of the Ancient Estate Claylands LCT (01) to the north of Friston, such that significant effects that occur are specific to this particular area and are not widespread. The Applicants consider that although these effects on landscape character are significant at the local level, wider character change is avoided due to the siting and design of substations and the OLMP.

ID	Written Representation	Applicants' Comments
	• will not restore the connectivity between the landscape and the village; • will not change the fact that Friston will be defined by the presence of by the substations and electrical infrastructure; and • will not re-establish the current experience of the using the PRoW Network north of Friston. 7.42 The overall effect upon the character of the local landscape and the setting of Friston village after 15 years would be moderate/major adverse.	The Applicants consider that the accommodation of the onshore substations and National Grid Infrastructure with the proposed mitigation is sufficient to mitigate adverse effects on the majority of landscape and visual receptors, including the wider 'overall' character of the 'host' landscape types: the Ancient Estate Claylands and Estate Sandlands LCTs, as well as the SCHAONB. The Applicants consider that these significant effects on local landscape character to the north of Friston are unavoidable due to the fundamental change from an essentially open rural landscape (albeit with overhead lines), to one in which at a local level, the local landscape character will be strongly influenced by the presence of the onshore substations (albeit, within a substantial landscape framework of woodland blocks, tree lines and hedges). Mitigation that improves accommodation described in the conclusions of ***Chapter 29*** LVIA (APP-077) paragraph 268, includes the good / careful design of the project, within a landscape that is partially enclosed by trees and woodlands (which offer more capacity to accommodate development without affecting the wider landscape character). The Applicants note the limited adverse impact on the character of Friston village experienced in views from within the village itself, where there is very low or no visibility and therefore limited impact arising from the substations; as well as the limited effect on the setting of the village experienced on vehicular and PRoW approaches from the south. The relatively contained geographic extent of significant landscape and visual effects assessed and the reduction in the magnitude of these effects over time with the delivery of the landscape mitigation plan is also fundamental. Although the OLMP mitigation measures cannot fully avoid

ID	Written Representation	Applicants' Comments
		significant landscape character effects, they will however reduce effects on local landscape character during the operational life of the projects.
63	***Summary*** 7.43 The choice of Friston as a location for the SPR&NG substations was the result of a flawed selection process which did not display good design in terms of siting. Harmful aspects associated with the location at Friston have been exacerbated by the lack of micro-siting. There is no evidence that a design evolution process has been undertaken and the substations and ancillary infrastructure appear to have been arbitrarily and unsympathetically imposed upon the existing landscape. The consequences are: • The loss of a substantial area of tranquil, open and deeply rural countryside; • Development that conflicts with the prevailing unified character of the surrounding landscape; • A complete change to the character of Friston, from a rural village to a village defined by substations and ancillary infrastructure; • Harm to the character and functionality of the PRoW network, including through the severance and permanent stopping up of PRoWs.; and • The need for an excessively long permanent operational access road, to be constructed between the B1121 and the substations. 7.44 The sensitivity of the local landscape to the development proposed is medium/high. The overall magnitude of change would be high, and the nature of the change would be adverse. In this my assessment concurs with that of the LVIA. The overall effect upon the character of the local landscape and the setting of Friston village would be major adverse both	The Applicants would like to emphasise that the RAG assessment does not in itself identify the chosen onshore substation site. The Applicants consider that the RAG assessment is the start of a process of identifying issues, from which further key issues were identified and considered in more detail. Comparative landscape and visual material was then prepared and considered in the AONB Appraisal (***Appendix 4.3*** (APP-444), in the ***Summary Note on Landscape and Visual Impact and Mitigation*** (***Appendix 4.5*** (APP-446)) and in comparative visualisations of the Grove Wood, Friston and Broom Covert, Sizewell alternatives (shown in the ***Consultation Report Appendix 8*** (APP-037). This material was all undertaken and considered as part of the site selection process. The site selection process had full regard to the potential effects as set out in these documents and the feedback provided by stakeholders the site selection ETGs. It is the Applicants' understanding from reviewing SASES' Written Representations that the most of the findings of effects assessed in ***Chapter 29 LVIA*** (APP-077) are not in dispute and the differences appear to be at a couple of viewpoints. The extent of significant effect occurs over a limited geographical area given the scale of the infrastructure. The intensity of these effects have also been reduced by further design iterations, as summarised in the ***Project Update Note for Deadline 3*** (REP3-052) and assessed in the ***Landscape and Visual Impact Assessment Addendum Note*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1).

ID	Written Representation	Applicants' Comments
	during construction (temporary effect) and once operational (permanent effect). The LVIA accepts that there would be a significant permanent effect on this landscape. 7.45 The ability of the proposed mitigation planting to lessen this impact is limited. Assuming the mitigation planting succeeds it could eventually (reduce some views of the equipment within the substations, however it will not: • Restore the unspoilt, quiet, and essentially undeveloped rural character of the area; • Restore the connectivity between the landscape and the village; • Change the fact that Friston will be defined by the presence of by the substations and electrical infrastructure; nor • Re-establish the current experience of the using the PRoW Network north of Friston. 7.46 The overall effect upon the character of the local landscape and the setting of Friston village 15 years after operation would be moderate/major adverse.	
8. Visual Effects		
64	8.1 This section is concerned with the visual receptors who would experience the changes in landscape character described above. Visual effects are a result of the sensitivity of visual receptors (people) to the proposed development and the magnitude of changes to existing views.	N/A
65	8.2 There are three key receptor groups who would be affected by the development of either SPR substation together with the NG substation and ancillary infrastructure at Friston. These are:	The Applicants note these key receptors groups which are identified and assessed in ***Chapter 29 LVIA*** **(**APP-077). The Applicant notes some differences in the levels of effect assessed in the LVIA but would highlight

ID	Written Representation	Applicants' Comments
	• Friston village residents (high sensitivity); • Users of the network of PRoWs that surround the village (high sensitivity); and • Users of the road network (which includes cyclists and horse riders) (medium sensitivity). 8.3 Friston village residents would also be part of the last two groups All three receptor groups would experience a high magnitude of change, both during construction and the eventual operation of the proposed development north of Friston. At the following locations the level of effects would be: • **Major adverse** for village residents at LVIA Vp 2 (Church Road) and LVIA Vp 4 (Grove Road). • **Major adverse** for users of the PRoWs network north of the village at LVIA Vp 1 (Fp17) and Vp 5 (junction of Fps 15 and 17). • **Moderate/major adverse** for users of the road network on the main vehicular approach into the village at LVIA Vp 8 (B1121 north of the village); LVIA Vp 9 (B1121 south of the village); and VP 14 (Grove Road).	the recent visual assessments made in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) assessing the refined design of the onshore substations (changes in footprint, building and equipment heights). It is clear from the photomontages in ***Appendix 1*** of the ***Updated Substation Visual Assessment Note*** (ExA.AS-3.D4.V1) that the combination of the reduction in the footprint of each of the onshore substations and their resulting relocation, lowering the datum height of buildings and external electrical equipment, reduction in substation equipment heights and updates to the OLMP providing further mitigation are beneficial in reducing the landscape and visual effects of the Projects substations and improving their accommodation in the landscape and views. The reduction in visual effects resulting from design refinements are most notable in viewpoints from the Friston area to the south, where a combination of the above design refinements results in a reduction in magnitude and resulting significance of effects in some views. The visual effects of the Projects substations have been reduced from the northern edges of Friston (such as Viewpoint 2 and 4), central areas of Friston (such as Viewpoint 6) and the main settled areas to the south of Friston and its approaches to the south (such as Viewpoint 9). The changes in visual effects are smaller from the north and north-west as the National Grid infrastructure is more prominent, and there is less scope for planting in constrained areas underneath or in close proximity to the existing overhead transmission lines, however even from these locations the overall scale and massing of the onshore substations has been reduced, and the wooded backdrop of Grove Wood/Laurel Covert provides

ID	Written Representation	Applicants' Comments
		greater visual containment with the refined ground levels and reduced equipment heights.
66	8.5 Assuming the mitigation planting succeeds (refer to Section 11) the length of time for which the impacts on visual amenity would be experienced would at best, be at least 10 years. This would cover the construction phase of at least 4+ years and at least the first five years of the operation. As set out in Section 11, the establishment of trees in this landscape is slow due to the dry climate and the clay soils. There will be no significant change in the visibility of the substations from Vp 15 years after the site is operational – that is a minimum of 10 years from the start of construction. Even after 10 years establishment (minimum of15 years from the start of construction) it is likely that there will be sufficient visibility, especially during the winter months, for the presence of the substations to be evident. The visualisations prepared are discussed in more detail in Section 10, but the 15 years post operational image from Vp 1 (minimum of 20 years from the start of construction), even if achievable, has replaced an attractive view across an unspoilt, quiet, and essentially undeveloped rural landscape with no view. 8.6 The proposed mitigation from Vp 1 does significantly lessen the harm when compared to the situation on completion. However, the magnitude of change is measured from the baseline situation. The change in view/ loss of views would result in a moderate magnitude of change for even after 20+ years, and the level of effect at the following locations would be: • Moderate/major adverse for village residents at LVIA Vp 2 (Church Road) and LVIA Vp 4 (Grove Road). • Moderate/major adverse for users of the PRoWs network north of the village at LVIA Vp 1 (Fp 17) and Vp 5 (junction of Fps 15 and 17).	As described in the LVIA in ***Chapter 29 LVIA*** (APP-077), in the early years of growth, young trees will be establishing, and are assumed to have good vigour, but likely to have limited screening effects in the landscape. Woodland planted areas are assumed to be well established between 5 to 10 years post-planting, with young trees growing in height, having increasing landscape significance and providing some screening of the onshore substations. Between 10 to 15 years post-planting, fully established trees are assumed to be generally retaining good vigour and starting to achieve good height with tree crowns spreading and are assumed to provide notable screening of the onshore substation and National Grid infrastructure. The Applicant notes the length of time required to deliver effective mitigation through the proposed mitigation planting (OLMP). As such it is taking a number of measures to ensure effective delivery of this mitigation. Opportunities for early planting have been identified and are shown in Figure 7 of the ***OLEMS*** (REP3-030) and described in ***section 3.5.5***. During the onshore preparation works or early in the construction phase, early woodland and hedgerow planting may be implemented in locations where it is possible to achieve advanced planting outside the immediate onshore substation and National Grid infrastructure construction areas. Where agreed with the relevant planning authority, areas of early planting and re-instatement of gappy hedgerows will be implemented in order to establish plants and provide for earlier screening. Depending on the timing of this early planting, these areas could already have had up to three years of growth prior to completion of construction and commencement of operation.

ID	Written Representation	Applicants' Comments
		The Applicants propose to prepare a LMP based upon an adaptive planting maintenance scheme (dynamic aftercare). This is a landscape aftercare supervision structure that addresses the annual growth of different blocks (or zones) of planting, with monitoring and targeted measures against agreed objectives. The use of such an adaptive planting maintenance scheme ensures the application of best practice in the implementation and maintenance of the landscape planting proposed in the LMP. The use of this adaptive planting maintenance scheme is intended to de-risk the timely delivery of planting, achieve optimum levels of plant growth and provide greater confidence that effective screening from the tree planted areas will be achieved before the end of the adaptive planting maintenance period. The Applicants consider that between 10 to 15 years post-planting, fully established trees are assumed to be generally retaining good vigour and starting to achieve good height with tree crowns spreading and are assumed to provide notable screening of the onshore substation and National Grid infrastructure. The Applicant agrees there will still be sufficient visibility for the presence of the substation to be evident in certain views, and it is not the design intention, nor is it realistic, to fully screen the substations from view. It is also the case that the planting will gradually reduce effects over time during its establishment and growth during the operational period; and that effective screening would be provided by the mitigation planting 15 years post planting from a number of viewpoints representing receptors considered in the ***Chapter 29 LVIA*** (APP-077) and cultural heritage assessment (Appendix 24.7, APP-519). This includes both views where mitigation planting is predicted to either entirely screen views towards the onshore substations or where the visual effects of the infrastructure will reduce in magnitude, as woodland planting grows and provides layered screening during the operational period, such that there is a reduction in the magnitude of change.

ID	Written Representation	Applicants' Comments
		The Applicant notes agreement that the proposed mitigation from Vp1 does *'significantly lessen the harm when compared to the situation on completion'*. The Applicant disagrees that the introduction of woodland at close range in this view would result in major/moderate (and therefore significant) effect.
67	*The proposed mitigation would have no impact on the magnitude of change for users of the road network on the main vehicular approach into the village at LVIA Vp 8 (B1121 north of the village) and LVIA Vp 9 (B1121 south of the village). The level of effect would remain Moderate/major adverse.*	The Applicants' assessment in both ***Chapter 29 LVIA*** (APP-077) and the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) is that the proposed mitigation would reduce the magnitude of change experienced by users of the B1121 north of the village (as represented by Vp8). The Applicants highlight the recent visual assessments made in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) assessing the refined design of the onshore substations (changes in footprint, building and equipment heights). It is clear from the photomontage for Viewpoint 8 ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) that due to the reduction in the footprint of each of the onshore substations and their resulting relocation further to the east, the lowering the datum height of buildings and external electrical equipment, reduction in substation equipment heights and updates to the OLMP further mitigation is provided that reduces the visual effects experienced in views from the vehicular approaches to Friston on the B1121 Saxmundham Road to the west and north-west. Similar reductions in visual effect are also achieved in the main vehicular approach to the village from the south on the B1121 Aldeburgh Road such as in the view from Viewpoint 9 - B1121 Aldeburgh Road, south of Friston ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) There is clear reduction

ID	Written Representation	Applicants' Comments
		in visual effect as a result of the reduced visibility of the substations and infrastructure in the backdrop to the view of Friston village. The reduction in visibility of these elements results in less effect on the backdrop and reduced contrast with the smaller scale development and focal points such as Friston Church in the view.
68	8.8 From VP 14 (Grove Road) there would be a similar loss of open views as experienced to the north of the village. After 20+ years the magnitude of change would be moderate and the level of effect Moderate adverse. South of Vp 14 the intention appears to be to maintain a gap in the planting so in addition to the loss of open views from Grove Road, where views were available through the planting, they would be views of the substation. For vehicular users of Grove Road these would be fairly fleeting views. However, Fp 6 is to be diverted along the edge of Grove Road and this will be an additional adverse impact on visual amenity for users of the footpath network.	As noted in relation to Vp1, the Applicants disagree that the introduction of woodland at close range in this view from Vp14 would result in moderate adverse (and therefore significant) environmental effect, arising from the loss of the open view. The effect of the loss of open view as a result of the project substations and NG substation is assessed at Year 1 of the operational period. Embedded mitigation planting is considered as the means of addressing the significant adverse effects identified during construction/early operational period and assessed against that scenario with embedded mitigation at Year 15. Structure planting mitigation measures help to reduce potentially negative landscape and visual effects of the infrastructure in its early operational period and are assessed as such. In order to avoid adverse effects of the mitigation planting itself, the planting and design of the OLMP has been given careful consideration so that they are designed to fit with the existing character, respecting and building upon local landscape distinctiveness, as described in full in the ***OLEMS*** (REP3-030). As described in the ***OLEMS*** (REP3-030), constraints are presented by the projects underground onshore cables coming into the onshore substations at this location (OLEMS, Figure 3 and Plate 3.4), however it has been possible to limit this 'gap' with a hedgerow planted across it and planting of shallow rooting species around the edges of the onshore cable route. A diversion leading from the existing PRoW (E-354/006/0) is proposed to the east such that it tracks parallel to, but offset by approximately 20m from

ID	Written Representation	Applicants' Comments
		Grove Road, within an existing field and areas of new planting. Early planting to the south of the PRoW and a strip of early planting to north of the PRoW is intended to provide screening at this location and minimise visual effects on PRoW users where it passes the onshore substation location (see OLMP***, Figure 3***).
69	***Conclusion*** 8.9 The proposal would result in major adverse and moderate/major adverse impacts on the visual amenity of users of the PRoW network to the north of Friston and users of the road network around Friston. This harm would be due to the loss of the current visual amenity open views of the countryside and attractive views towards the edge of Friston, as well as to the visibility of the large-scale industrial structures. 8.10 Proposed mitigation will, after a period of at least 10 years, lessen the views of the infrastructure to varying degrees (from a negligible degree at e.g. Vp 8 to a more substantial degree at e.g. Vp 1), but at all locations it will not restore the current visual amenity and in places the mitigation planting in itself will restrict open views (e.g. Vp 1).	Significant, long-term and permanent visual effects are assessed as occurring only on views experienced by people walking on the local PRoW network to the north of Friston, residents of a limited number of scattered rural dwellings near Friston / Fristonmoor and localised parts of the edges of the village of Friston, all within a localised geographic area of approximately 1.2km. The Applicants note that lower levels of effect, including non-significant effects, are also predicted for village residents, users of the PRoW network to the north and south of the village and from other vehicular approaches to the village. The Applicants agree that the proposed mitigation will, after a period of 10 to 15 years, lessen the views of the infrastructure. The visual effects of the onshore substation and National Grid infrastructure will be effectively mitigated from a number of viewpoints either by the notable screening provided by existing hedgerows, trees and woodland planted areas; further screening provided by mitigation planting where effects are either assessed as becoming not significant or reducing in magnitude over the medium to long-term. New planting has been designed carefully to integrate the development into the character of the landscape, insofar as possible for development of this scale, and consists of both backdrop and screening planting, designed to contain the influence of the infrastructure and promote the 'natural' appearance of landscape to offset the appearance of the substations and associated infrastructure. The reduced height, scale and

ID	Written Representation	Applicants' Comments
		massing of the Project substations will also make the mitigation afforded by the planting more effective over a shorter period of time in certain instances.
9. Cumulative Effects		
70	*GLVIA3 states that cumulative effects: 'result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future'.*[63]	N/A
71	*9.2 The LVIA considered two construction scenarios for its cumulative assessment:* *• Scenario 1 – East Anglia ONE North and East Anglia TWO onshore infrastructure are constructed at the same time.* *• Scenario 2 – East Anglia ONE North onshore infrastructure is built entirely and the land re-instated, then East Anglia TWO onshore infrastructure is constructed.* *9.3 ES Appendix 29.5 contains the LVIA Cumulative Assessment, and identifies that the construction of both SPR substations together with the NG substation would result in cumulative landscape and visual effects that would be significant but 'medium term' over the duration of the construction activity – this implies that the construction period would be at least 5 years. For the operational phase, it considered that the effects would be the same, significant and permanent, irrespective of the construction scenario. (see following section for more details).* *9.4 If both SPR substations were consented, then additional, adverse cumulative impacts would occur at every stage of the development;*	The Applicants note that the preceding sections 1-8 of SASES Written Representation appear to address the cumulative effects of both project substations and the NG substation. These sections tend to refer to the two project substations, the combined footprint of the main components and are not structured to address effects of each projects substation in turn, which differ in some views, for example, depending on the substation being assessed. ***Appendix 29.5*** (APP-569) containing the LVIA Cumulative Assessment considers cumulative effects of Scenario 2 (the East Anglia TWO project is built entirely and land is re-instated, then East Anglia ONE North is constructed), which are assessed as being medium-term (5-10 years) in the cumulative LVIA, due to the longer construction period assessed in this scenario. The increased duration of the construction phase in this scenario is recognised and assessed in the LVIA, as is the overall scale of development of both project substations and the NG substation.

ID	Written Representation	Applicants' Comments
	increasing the development's overall landscape and visual effects. Cumulative impacts that would be particularly harmful are: *• The long duration of the construction phase. If constructed sequentially (scenario 2 above) then the duration of the construction phase for just the two SPR substations would be at least 5 years.* *• The overall scale of the development. If both SPR substations were constructed, then the development footprint occupied by the SPR substations and associated infrastructure would be doubled. The incongruity of the development's scale with the smaller scale rural character north of Friston village would be exacerbated. It is more difficult to micro-site two SPR substations, such to reduce their impacts upon the local landscape framework compared to micro-siting only one SPR substation.*	
72	9.5 It is noted that the cumulative effects of other developments which may come forward in association with National Grid infrastructure at Friston have not been considered in the applicants' assessments. These developments are understood to include up to six other offshore energy projects which may connect at the Friston substation complex (these projects are known as Nautilus, Eurolink, Five Estuaries, North Falls, SCD1 and SCD2). 9.6 It is very likely that the additional infrastructure required for those connections would have additional landscape and visual impacts to those already identified in this report. This issue is considered elsewhere in SASES's submissions and I have not carried out a further assessment of the cumulative effects of these projects.	The Applicants refer to the responses provided in Table 2.2 of ***Applicants' Comments on SASES Deadline 1 Submissions*** (REP3-072) regarding cumulative impacts.
10. Submitted LVIA (ES Chapter 29)		
73	*There is a separate 154 page LVIA dealing with the landscape and visual effects of the onshore elements of the proposed off shore windfarms. There*	N/A

ID	Written Representation	Applicants' Comments
	are four key onshore elements – Landfall, the onshore cable route, the SPR substations and the NG substation. Of these, only the latter two will have long term permanent effects during operation. Both of these elements are located in the landscape to the north of Friston. The impacts on the landscape at Friston should therefore have been of central importance to the LVIA.	
74	*Section 29.6.1.3.1 covers the assessment of Landscape Effects during construction of the – Onshore Substation and National Grid Infrastructure. It consists of three paragraphs (165-167) one of which is concerned with effects on the AONB which is not at issue. The assessment of landscape effects during operation is more detailed at seven paragraphs (178-187) with one concerned with effects on the AONB.*	The Applicants would point to the detailed assessments of the effects of the construction of the onshore substations and National Grid Infrastructure contained in ***Appendix 29.3*** (APP-567) as well as the summaries in ***section 29.6.1.3.1*** of ***Chapter 29 LVIA*** (APP-077).
75	***Landscape Effects*** *10.3 It is unclear why the LVIA in assessing landscape value refers to the County Landscape Character Types rather than the more recent Suffolk Coastal Landscape Character Areas which are more relevant at the local level. The LVIA considers the Ancient Estate Claylands LCT to have only medium value (paragraph 179) and lists the detracting factors to be found in this LCT. It then goes on to acknowledge that in the area that will be affected by the development these detracting factors are not present.* *'The local landscape in the Friston area has a strong sense of place and local distinctiveness, with value deriving from the setting of the landscape to the parish of Friston, the characteristic arrangement of this parish, the village and outlying farmsteads in the open agricultural setting with a simple, rural character, network of fields with strong hedgerow field boundaries, scattered mature deciduous field boundary trees and distinctive backdrop of ancient woodland (Grove Wood).' (Para 179)*	The Applicants note that the Suffolk County LCA was agreed through the consultation process with the ETG as the appropriate landscape character assessment for the LVIA (***Chapter 29 LVIA*** (APP-077)). The key characteristics of landscape character areas from the more detailed Suffolk Coastal District LCA (July 2018) are also referred to in the LVIA, in order to further describe the sense of place and distinctiveness of the Suffolk County LCTs, particularly those in which the onshore substation and National Grid substation are located (***Chapter 29, para 103*** and ***Appendix 29.3*** (APP-567)***, section 29.3.1***)). ***Chapter 29 LVIA*** finds that the sensitivity of the local landscape to the changes arising from the proposed development is medium-high, however it finds that this primarily results from the medium-high susceptibility to the proposed changes and considers that the landscape is of medium value. The Applicants consider that any rural landscape would be likely to have a relatively high susceptibility to the scale of development proposed and that the site selection in a landscape of medium value avoids significant effects

ID	Written Representation	Applicants' Comments
	10.4 I agree with this description and consider that the local landscape the LCA L1: Heveningham and Knodishall Estate Claylands, has noticeably greater value than the District LCT. The LVIA does acknowledges that the 'characteristic arrangement and visual relationship of the parish, the quiet rural setting, network of hedgerow field boundaries and public rights of way are susceptible to changes arising from the construction and operation of the onshore substation and National Grid infrastructure in landscape between Friston village and Fristonmoor.' (Para 180). The LVIA assess the susceptibility as medium-high and the sensitivity as medium-high, even taking into account the presence of the high-voltage overhead transmission lines. (Para 180).	on the qualities of the most highly valued landscapes in East Suffolk within the SCHAONB.
76	*For ease of reference, the conclusions of the LVIA regarding the impacts on local landscape character are set out in Tables 2 & 3 below with my comments. The conclusions relate to two landscape receptors referred to in the LVIA as Areas 1A and 7A. These areas were identified in the LVIA as sub-areas within LCAs (L1 & K3) originally drawn in the Suffolk Coastal Landscape Character Assessment64. Area 1A (North of Friston, between Grove Road, Fristonmoor and Saxmundham Road) is where the substations and the majority of infrastructure would be located. Area 7A (Thorpeness to Aldringham and Friston) includes Friston village and a substantial tract of countryside east of the village, up to the coast.*	N/A
77	Although the LVIA identifies the sensitivity of the receptors on a scale of low-high and the magnitude of change on a scale of negligible to high, the overall impact is described only as 'significant' or 'not significant'. (Table 29.5 Significance Matrix Page 30) I do not consider this to be best practice as it results in a very unrefined conclusion. From Table 29.5 it appears that a significant impact could range from a moderate-minor effect to a major impact. It is necessary to understand more precisely the exact degree of significance. AS the LVIA has provided assessments of sensitivity and	The Applicants would refer to paragraph 53 of ***Appendix 29.2*** (APP-566): *'The objective of the assessment is to predict the likely significant effects … on the landscape and visual resource. In accordance with the EIA Regulations, the landscape and visual effects are assessed to be either significant or not significant. The LVIA does not define intermediate levels of significance as the EIA Regulations do not provide for these'.*

ID	Written Representation	Applicants' Comments
	magnitude of change I have used these, based on best practice, to give an indication of the degree of significance.	As stated in GLVIA3, *'the regulations require that a judgement is made about whether or not each effect is significant'*, and *'there are no hard and fast rules about what effects should be deemed significant, but LVIAs should always distinguish clearly between what are considered to be the significant and non-significant effects'.* The Applicants LVIA has clearly done that. GLVIA also notes that *'it is not essential to establish a series of thresholds for different levels of significance…. provided it is made clear whether or not they are considered significant'.* While GLVIA3 does recognise that significance can be expressed as a *'series of categories of significance'*, *'for example a four-point word scale of major/moderate/minor/negligible'*… this is *'provided there is a clear explanation of which categories are considered significant and which are not'*. The Applicant considers that this comes down to professional judgement/differences in approach between landscape and visual assessors, but as long as significant and non-significant effects are clearly set out, either approach is acceptable in terms of the guidance (GLVIA3) and the EIA Regulations. The Applicants note that reference can be made for further refinement to the assessments of magnitude of change, which provide an assessment of the size or scale of landscape and visual effects, on a scale of high to negligible.
78	A significant cumulative effect (resulting from two SPR substations) was identified for both receptors (Areas 1A and 7A) at each development stage. These effects were considered to be significant at the construction stage, regardless of whether the substations were constructed at the same time	Cumulative effects of Scenario 1 (the proposed East Anglia TWO project and East Anglia ONE North are built simultaneously) are assessed as short-term duration (1-4 years) in the LVIA (***Appendix 29.5 (***APP-569)). This is

ID	Written Representation	Applicants' Comments
	(scenario 1) or sequentially (scenario 2). The only difference being the duration of the cumulative effect, with construction scenario 2 having a medium-term effect (5 to 10 years[65]) and scenario 1 a short-term effect (1 to 4 years[66]).[67] It is noted that within the main body of the LVIA, the cumulative effects of scenario 2 (for the construction of the substations) are described as long term[68] (more than 10 years[69]). I am not clear how this figure of 10+ years was reached but it highlights the uncertainty over the length of the construction period.	based on the 30 month construction period for the project substations; and 48 month construction period for the NG substation. Cumulative effects of Scenario 2 (the East Anglia TWO project is built entirely and land is re-instated, then East Anglia ONE North is constructed) are assessed as being medium-term (5-10 years) in the LVIA (***Appendix 29.5***). This is based on the 60 month construction period for the project substations when constructed sequentially; and 48 month construction period for the NG substation. In both scenarios the 12 month NG overhead line realignment works were assumed to take place within this overall construction period. The Applicants note that the text within the main body of Chapter 29 LVIA (APP-077) at para 210 referring to long-term is a typographic error – the subsequent Table 29.13 correctly assessed construction stage cumulative effects of the onshore substations and NG infrastructure in Scenario 2 as medium-term for each individual receptor.
79	10.8 Significant long term and permanent (and cumulative) visual effects were also identified for a number of visual receptors, including those within the PRoW network north of Friston (e.g. LVIA Vp 5) and within Friston village itself (e.g. LVIA Vp 2). 10.9 We agree with the LVIA that both Friston village and the landscape to its north would experience a high magnitude of change and would suffer significant adverse effects, at the least moderate major adverse at every stage of the development. There would be no significant reduction in effects after 15 years. We also agree that significant cumulative effects would also be experienced at every stage of development should both SPR substations be consented.	The Applicants note that lower levels of effect are also predicted for others users of the PRoW network north of the village, such as at Vp3 (Grove Road, near Peartree Farm) and to the south and east of the village at Vp7 and Vp13; as well as for village residents from other viewpoints within Friston village itself such as Vp6 (Friston Village Green). The Applicant notes that the main 'triangular' area of the Friston settlement (in the shape of an infilled green) is set back at greater distance from the onshore substations and experiences lower levels of effect than the dispersed northern edge of the village, due this greater distances and separation by the village green, areas of common land around St Mary's Church, housing on Church Road / Hillcrest and Friston House Wood. The Applicant considers that the proposed mitigation will, after a period of 10-15 years,

ID	Written Representation	Applicants' Comments
		lessen the landscape and visual effects of the infrastructure to varying degrees.
80	***Significance of Effects*** Although we agree that the effects would be significant that classification alone does not explain the severity of the harm. The LVIA has failed to set out in full the severity of the harm that would be caused by the proposed SPR and NG substations and Infrastructure in particular due to: • The fact that the assessment of impacts from the SPR&NG development forms only a small part of the application for the offshore wind turbine developments. The proposed substations at Friston constitute substantial development but the impacts are not described in the level of detail that would have been expected had the SPR&NG development formed an NSIP in its own right. • An absence of plans showing the proposal and Friston village together (none of the figures included within the LVIA or the OLMP show the complete proposals (e.g. substations, cable sealing ends, access roads etc) and the entire village together). This omission makes it difficult to see the enormity of the proposal relative to the size of the village. To assist in the examination, I have prepared a number of plans that show the proposal in relation to the village. 10.11 Having identified such a significant level of harm the LVIA dismisses it on the basis that 'Virtually all nationally significant energy infrastructure projects will have effects on the landscape'. Whilst many nationally significant energy infrastructure projects will have effects on the landscape EN1 makes clear that the harm to the landscape can be minimised through careful design in the siting of the projects, including through locating new infrastructure close to existing infrastructure. There is no evidence to show	The LVIA focuses on the assessment of likely significant landscape and visual effects in accordance with the EIA Regulations. The assessment of impacts in the ES includes other aspects of the projects including the offshore windfarm developments (***Chapter 28 Offshore Seascape, Landscape and Visual Amenity***) (APP-076). The Applicants disagree that the impacts are not described in the level of detail expected. The LVIA of the onshore substations and NG substations is set out (along with the onshore cable route and landfall) across the LVIA Chapter (Chapter 29) (154 page) and its five appendices, including Appendix 29.3 Landscape Assessment (102 pages); Appendix 29.4 Visual Assessment (122 pages) and Appendix 29.5 Cumulative Assessment (72 pages). The Applicants would refer to Figure 4 of the ***OLEMS*** (REP3-030) within the ES that shows both Friston village and the proposed development together. The Applicants can confirm that it was not the intention of the LVIA to dismiss the level of significance of the projects substations, which are clearly and robustly identified in the LVIA in ***Chapter 29 LVIA*** (APP-077), but simply to provide context that all nationally significant energy infrastructure projects will have effects on the landscape as recognised in NPS-EN1. The Applicants consider that 'good design' has and continues to be undertaken as part of the ongoing design iteration process. As described fully above in previous comments, this has been applied at various levels, from the strategic siting; local siting; the landscape design (OLMP) around

ID	Written Representation	Applicants' Comments
	that the harm that would be caused by the SPR&NG substations has been minimised by careful site selection process or considered micro-siting.	the substation and within the substation layout itself, all of which with regard to reducing the harm to the landscape through careful siting and design. Through the ***Substations Design Principles Statement*** (submitted at Deadline 4, document reference ExA.AS-28.D4.V1), the previous ***Substation Design Principles Statement*** (REP1-046), and the ***updated OLEMS*** (REP3-030) the Applicants are committing to further design review of the design aspects of substation infrastructure, including design details such as the colour, form and materiality of buildings, fencing and ground cover to further minimise landscape and visual effects.
81	***Visualisations*** 10.12 The visualisations that have been submitted with the ES under-represent the impact of the development. This is as a result of a number of factors: • An absence of viewpoints from a number of key locations • The physical presentation of the images • The omission of parts of the development from some visualisations	The Applicants' comments are provided against each of these points in the responses below.
82	10.13 There are a number of key viewpoints from where visualisations have either not been prepared or the viewpoint location does not show the most important features of the landscape that are available from other nearby locations. In particular there is an absence of views that show the relationship between the footpaths to the north and the village which is identified by the church tower. Viewpoints from which visualisations should be prepared are:	The Applicants note that viewpoints for the LVIA were agreed in consultation with the Councils and relevant stakeholders. The Applicants note that there are 24 viewpoints with photomontages included across the ***Chapter 29 LVIA*** and Cultural Heritage assessment (***Appendix 24.7*** (APP-519)), as well as a further six viewpoints provided with 'baseline only' illustrative views (A-F). The Applicants consider that there is ample coverage of the relevant receptors within this suite of representative viewpoints, from which to understand the likely landscape and visual impacts of the proposals.

ID	Written Representation	Applicants' Comments
	• Fp 6 north of the site. This omission makes it difficult to understand the impacts on the setting of Friston Church and its role as a landmark across the countryside north of the village. (see Photographs C, D & E (Figure 13)) • Fp 8 west of Vp 3. The omission of a viewpoint west of Vp 3 makes it difficult to understand the impacts on the setting of Friston Church and its role as a landmark across the countryside north of the village. It is inappropriate to have only one viewpoint from Fp 8, located at the junction with Grove Road. Views of the church from this location are screened by planting around Fareacres, whereas further west they are clear and make a significant and positive contribution to the local landscape. (see Photograph B (Figure 13)) • From the front of Friston Church. There is no LVIA visualisation form the front of Friston Church. There is a cultural heritage viewpoint taken from the war memorial behind the church, but this is located behind a group of trees which obscures views to the north. There is no vegetation obscuring views from the front of the church. This is a very pubic location where it is likely that people will gather and linger and therefore have more time to experience the view. • From Grove Road south of Vp 14 where it is intended that there should be a gap in the proposed planting which will allow direct views into the substations. This is also on the proposed diverted footpath.	With reference to the specific comments on absence of views showing the relationship between the PRoWs to the north and Friston, the Applicants note inclusion of the following six viewpoints which illustrate views from the PRoW network to the north of Friston, several of which include views of the church: • LVIA Viewpoint 1 – PRoW near Friston House • LVIA Viewpoint 2 – PRoW leading from Church Road, Friston • LVIA Viewpoint 3 – PRoW near Grove Road/Pear Tree Farm (leading to Little Moor Farm) • LVIA Viewpoint 5 – PRoW near High House Farm, Fristonmoor • CH Viewpoint 3 – PRoW between Moor Farm and Little Moor Farm • CH Viewpoint 4 – PRoW to east of Little Moor Farm
83	10.14 The physical presentation of the visualisations also results in an under-representation of the impact of the development. The most significant failure is as a result of the variation in the HFoV between the baseline images and the visualisations. The baseline images are presented with a 90° HFoV but the images showing the development which are presented with a 53.5°HFoV. This variation is in direct conflict with the recommendations of the most recent Landscape Institute Guidance Visual	The Applicants note comments regarding the lack of direct comparison between the baseline photograph (90° field of view) and photomontage (53.5° field of view) at the same size to allow direct comparison. The ES visualisations were produced in 2019 for submission in October 2019 prior to the publication of the current Landscape Institute Technical Guidance Note 06/19 (published in September 2019).

ID	Written Representation	Applicants' Comments
	Representation of Development Proposals (LI TGN 06/19) which states that: 'Imagery will typically be presented as three related sheets: Baseline photograph; wireline / wireframe or photowire composite; and photomontage. These should be presented at the same size to allow direct comparison'.[70] This recommendation is reiterated at paragraphs 4.4.6 & 4.4.7 of LI TGN 06/19.	The relevant guidance at the time of the photomontage production was contained within Visual representation of development proposals Technical Guidance Note 02/17 (Landscape Institute, 31st March 2017) and Visual Representation of Wind Farms (SNH, 2017), both of which are referred to in the LVIA methodology and were the relevant guidance at the time on which the photomontages are based. The Applicants accept that the guidance for the visual representation of development proposals has moved on with publication of Landscape Institute's Technical Guidance Note 06/19 and that this recommends imagery to be typically presented as baseline photograph and photomontage presented at the same size to allow direct comparison. The Applicants have produced updated photomontages at Deadline 3 (***Updated Photomontages Clarification Note*** **(**REP3-062)) and Deadline 4 (***Landscape and Visual Impact Assessment Addendum*** (ExA.AS-3.D4.V1)) of the onshore substations to show changes in substation footprint, ground levels, heights of infrastructure and updates to the OLMP. These are presented with a baseline photograph at the same size as the photomontage to allow direct comparison. The Applicants consider that the 90° field of view baseline photograph presented in the LVIA visualisations remains important to understanding the wider view context of the proposal.
84	10.15 The difficultly in making a direct comparison is compounded by the fact that some of the year 1 photomontages (E.g. LVIA Vp 3) include substantial pre-commencement planting making it impossible to understand the exact nature of the development.	The Applicants have produced updated photomontages at Deadline 3 (***Updated Photomontages Clarification Note***) and Deadline 4 (***Landscape and Visual Impact Assessment Addendum*** (ExA.AS-3.D4.V1)). The updated photomontages presented do not show the growth of proposed early planting areas at Year 1 of operation; or its potential additional growth at Year 15 of operation.

ID	Written Representation	Applicants' Comments
85	10.16 The failure to present as single frame images, at locations where all of the proposed development could have been captured in a single frame and presented on an A3 page. (e.g. at Vps 7, 9, 10. Using single frame image on an A3 page is recommended in TGN 06/19 where it is possible.[71] Single frame images allow a better understanding of scale and distance and A3 pages are easier for people to use on site. In order to highlight the differences made by presenting at single frame at A3 I have reproduced single frame photographs from the panoramas at Vps 9 and 10 (see Figures 14 & 15).	Single frame, 39.6° HFoV images are often produced for onshore wind farms in Highland, Scotland, based on the Highland Council Visualisation Standards for Wind Energy Developments (Highland Council, 2016). More recently the use of single frame images is also referred to in TGN 06/19, depending on the proposal under consideration and its relevant landscape context. The Applicants consider that there is also a fundamental technical limitation in the use of 39.6° HFoV single frame images as they are not suitable for visualisation in viewpoints at close range or where the horizontal spread of development and relevant content extends beyond the 39.6° single frame, as they would not capture the horizontal spread of the development or the *'breadth of visual information required to represent relevant context'* (TGN 06.19). The Applicants note health warnings with regards to 39.6° HFoV (50mm focal length) images, that when viewed at a comfortable arm's length, single frame images are representative of the maximum field of view of clear vision, but are not representative of scale and distance (as noted in Highland Council, 2016). In other words, the 39.6° HFoV single frame image is an enlargement and is not representative of the apparent scale of development proposals when viewed with the photomontage in the field. This enlargement factor is noted in TGN 06/19 *'Images will typically be presented with a single frame on an A3 sheet, providing an enlargement in the range 100-120% subject to camera / lens combination'.* The Applicants disagree with SASES that single frame images at A3 '*allow a better understanding of scale and distance'.* The Applicants produced 'panoramic photomontages' with a 53.5° HFoV, and A1 width based on relevant guidance (TGN 06/19, Table 5) and due to

ID	Written Representation	Applicants' Comments
		their suitability to encompass the horizontal spread of the proposals at close range, to capture the landscape context and ability to show the proposals at a representative scale and distance. The Applicants consider that the format of these photomontage visualisations is entirely appropriate and robust to allow interpretation and understanding of the landscape and visual effects of the proposals.
86	10.17 There is an omission of parts of the development from some visualisations. The cable sealing end with circuit breaker compound is missing on the set of visualisations showing the NG (GIS) Substation from Vp 5.72 This compound is shown on the visualisations with the NG (AIS) Substation.73 The choice of the HFoV for Vp 5 also results in an underrepresentation. The HFoV only includes the very edge of the cable sealing end with circuit breaker compound (right hand edge of the image) the rest of the compound is outside the image. This is unnecessary as the development does not extend all the way to the left-hand edge of the image. This is particularly significant because Friston Church is also located on the right-hand edge of the image. The cable sealing end with circuit breaker compound will be located directly between Vp 5 and the church.	The Applicants note comments with regards Viewpoint 5. The cable sealing end compound can be seen to the right-hand side of the view, as can Friston Church, but it is noted that this component of the development extends beyond the edge of the 53.5° view presented in the ***Chapter 29 LVIA*** Viewpoint 5 (***Figure 29.17b-c***). This serves to illustrate the point made above about single frame images being unsuitable. The Applicant has provided an updated photomontage from Viewpoint 5 in its Deadline 4 submission (***Landscape and Visual Impact Assessment Addendum*** (ExA.AS-3.D4.V1)) with two x 53.5° views to illustrate a wider field of view from this viewpoint.
87	10.18 The visualisations fail to represent a maximum effect scenario due to the lighting conditions when a number of the viewpoint photographs were taken. For example, the photograph for Vp 5, was taken towards the sun which means the proposed substations and infrastructure structures appear very dark. This is also the case for Vp 10, the photograph for which was taken in late afternoon, when the light was fading. 10.19 It is acknowledged that achieving photographs that accurately represent the experience on the ground is difficult. This is especially true of skyline features such as the tower of Friston Church. Whilst this can be seen very clearly with the human eye, photographs do not have the same	As stated in ***Chapter 29 LVIA*** (APP-077) and ***Appendix 29.2*** (APP-566), in preparing photomontages for the LVIA, photographs have been taken in favourable weather conditions during winter, seeking to represent a maximum visibility scenario (when trees are not in leaf). Inevitably during winter months, achieving photographs that accurately represent the experience is challenging, particularly due to the low sun angle in views south during the winter. The Applicants consider that the resulting photomontages from Viewpoint 5 and 10 is entirely clear and appropriate to allow interpretation and understanding of the visual effects of the proposals.

ID	Written Representation	Applicants' Comments
	ability to distinguish features of interest as the human brain. My photographs of the church tower also do not represent the actual experience.	
88	10.20 The planting shown for the pre-commencement at operational year 1 and for post commencement planting at year 15 is considered to be optimistic. As set out in section 11, due to local weather and soil conditions, the growth rates could be 50% or less of what is predicted.	The Applicants address the issue of growth rates in some detail in the ***Updated Photomontages Clarification Note*** (REP3-062) submitted at Deadline 3, particularly in ***section 3.1.4***. The Applicants are also engaging with the Councils on maintenance and aftercare measures that it could adopt in order to reduce the concerns expressed in relation to the growth rates and deliverability of mitigation in a timely manner. These are described further in the ***updated OLEMS*** submitted at Deadline 3 (REP3-030). The Applicants note concerns regarding the potential for dry spring/summer conditions in Suffolk to hamper plant establishment and will ensure that the LMP includes provision for the implementation of adequate watering of newly planted and established trees during the aftercare period. The Applicants consider that there is no reason to suppose that an effective and deliverable landscape planting and screening cannot be established, subject to approval of the detailed LMP design and appropriate preparation of soil, species, stock selection and quality of planting and aftercare.
89	10.21 There is a lack of detail regarding significant infrastructure components such as the access roads, for which there are no photomontages or cross sections.	The scope and extent of the LVIA photomontages was agreed through the consultation process with the ETG (***section 29.2*** of ***Chapter 29 Landscape and Visual Impact Assessment*** (APP-077). This did not include the need for photomontages of the access roads.
90	***Conclusion*** 10.22 The LVIA recognises that the landscape in the Friston area has a strong sense of place and local distinctiveness, with value deriving from the	The Applicants acknowledges the significant effect on landscape character that will occur within the substations area and the retained landscape surrounding the substations, which is identified and assessed in the LVIA in

ID	Written Representation	Applicants' Comments
	setting of the landscape to the parish of Friston, the characteristic arrangement of this parish, the village and outlying farmsteads in the open agricultural setting with a simple, rural character, network of fields with strong hedgerow field boundaries, scattered mature deciduous field boundary trees and distinctive backdrop of ancient woodland. 10.23 The LVIA recognises that the landscape has a medium/high sensitivity to the development and that the magnitude of change would be high due to the conflict between the large-scale industrial nature of the development and the existing rural character with its characteristic patterns and its relationship with Friston. The LVIA identifies the impact of the development on Friston and the landscape to the north of Friston as significant. Although it is not made clear, the LVIA the assessment equates to a moderate/major or major adverse impact. The LVIA assessment accept that the significance of the impacts would reduce very little after 15 years of operation. The assessment equates to a moderate/major adverse impact for the life of the development. 10.24 Having identified such a significant level of harm the LVIA dismisses it on the basis that 'Virtually all nationally significant energy infrastructure projects will have effects on the landscape' (Para 266). Whilst many nationally significant energy infrastructure projects will potentially have effects on the landscape EN-1 makes clear that the harm to the landscape can be minimised through careful design in the siting of the projects. There is no evidence to show that the harm that would be caused by the SPR&NG substations has been minimised by a careful site selection process or by considered micro-siting. 10.25 The visualisations submitted with the ES underrepresent the impact of the development. This is due in particular to: • The omission of key viewpoints	***Chapter 29 LVIA*** (APP-077), however they consider that these significant effects on landscape character and visual amenity occur on a limited number of receptors within a very limited geographic area, considering the scale of the infrastructure, within approximately 1km of the projects substations. Although these effects on landscape character are significant at the local level, wider character change will be avoided due to the siting and design of substations and the mitigation measures proposed by the application in the OLMP. Although the OLMP mitigation measures cannot fully avoid significant landscape character effects, they will however over time, reduce effects on local landscape character. The intensity of these effects have also been reduced by further design iterations, as summarised in the ***Project Update Note for Deadline 3*** (REP3-052) and assessed in the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1) submitted at Deadline 4. The reduction in the footprint of each of the onshore substations and their resulting relocation further minimises effects on landscape character and the existing landscape framework. This includes retention of an existing area of established woodland (in a depression to the west of PRoW E-354/006/0) and minimising the intrusion of the western substation into the finer grained landscape of smaller enclosures to the south, such that the large majority of the substations area is within the larger scale field system to the north. Together with the reductions in scale of the infrastructure, these design refinements will reduce the geographic extent and intensity of the landscape effects experienced over the localised geographic area in which significant landscape effects occur. The Applicants considers that the siting and ongoing design of the Projects substations and National Grid substations demonstrates due regard to minimising harm on landscape character.

ID	Written Representation	Applicants' Comments
	• The inability to make a direct comparison between the baseline images and the visualisations; • The failure to present visualisations as single frame images where possible; and • The optimistic growth rates used for the mitigation planting shown.	The visualisations submitted with the ES have been produced in accordance with relevant guidance and to best practice standards. The Applicants have produced updated photomontages at Deadline 3 (***Updated Photomontages Clarification Note***) and with its ***Landscape and Visual Impact Assessment Addendum*** at Deadline 4 (ExA.AS-3.D4.V1) showing the substation design refinements and addressing comments from the Councils in relation to the appearance of the landscape planting. Baseline views at the same horizontal field of view as the photomontages have been added for direction comparison, however single frame photomontage views are not appropriate for the visualisation of the Projects. The Applicants note that viewpoints for the LVIA were agreed in consultation with the Councils and relevant stakeholders, and that there is ample coverage of the relevant receptors within this suite of representative viewpoints to understand the likely landscape and visual impacts of the proposals.
11. Mitigation Proposals		
91	Introduction	N/A
92	**Summary of Key Aspects of Outline Landscape Mitigation Plan** 11.4 It is noted that the vast majority of the proposed woodland planting is proposed to be undertaken post construction. This includes the 'large woodland belts that surround the onshore substation and National Grid substation, as well as formalising the woodland planting around the SuDS basins'.[76] If the projects are built consecutively then the post construction mitigation planting (which represents the bulk of the mitigation planting) would be delayed. The mitigation for the National Grid infrastructure and	Opportunities for early planting have been identified and are shown in ***Figure 7*** of the ***updated OLEMS*** (REP3-030) and described in ***section 3.5.5***. Early planting may be implemented in locations where it is possible to achieve advanced planting outside the immediate onshore substation and National Grid infrastructure construction areas will be implemented in order to establish plants and provide for earlier screening. These proposed early planting areas have been designed in response to specific receptors to provide for screening and mitigate adverse effects at the earliest opportunity. The LVIA notes that depending on the timing of this early planting, these areas could already have had up to three years of growth

ID	Written Representation	Applicants' Comments
	whichever of the EA1N or EA2 substations were built first would be significantly delayed. 11.5 The areas of pre-construction planting (which includes hedgerow planting) shown on OLMP Figure 7 would be undertaken 'as early as possible, post-consent'. The OLMP states that this would mean the planting would have 'had approximately three years of growth prior to completion of construction and commencement of operation'.[77] It is unclear where the figure of 3 years is derived as the NG substation will take at least four years to construction.	prior to completion of construction and commencement of operation, taking a precautionary time period for the construction period of one of the project substations, but it is noted that this period of early planting growth could be longer based on the four year NG substation construction period.
93	11.6 Regarding the substation site levels and proposed bund, the OLMP states: 'Based on preliminary engineering design undertaken, the finished ground level in respect of the onshore substation is anticipated to be approximately 20.7m AOD where the onshore substation is located to the east, and approximately 18.2m AOD where the onshore substation is located to the west. The final finished ground level will be established during detailed design post-consent as per the Outline Substation Design Principles Statement. The current bund proposal associated with onshore substation and National Grid infrastructure SuDS basins and perching of basins in location is identified in Figure 5. The top of the bund will be 1.5m higher than the internal substation level. The intention is to grade the ground up to these levels from the substation at a grade of 1:3. This grade of slope also allows for safe maintenance access. The bund is then shaped so that externally it falls at a gentler grade of 1:10 to 1:20 away from the substation to have a smoothly graded, natural looking slope facing the viewers looking towards the substation'.78	Since submission of the Applications, the Applicants have carefully reviewed engineering considerations at the onshore substation and National Grid substation locations (as summarised in the ***Project Update Note for Deadline 3*** (REP3-052). In particular, the estimated finished ground levels have been reviewed and it has been possible to commit to a reduced above ordnance datum height of the buildings/equipment, which is achievable due to refining the finished ground levels but also the building/equipment height reductions at two of the substation locations. Updated details of finished ground levels are provided in the ***Substations Update Document*** (document reference ExA.AS-11.D3.V1) submitted at Deadline 3. A comparison of the finished ground levels within the Applications and those now proposed is presented in Table 3.1 of that document, as follows: **Substation Location** / **Level on which Application Photomontages are based (Chapter 29 (APP-077)** / **Revised Finished Ground Level (Estimated)**

ID	Written Representation	Applicants' Comments
	11.7 The assumed ground levels identified in the OLMP do not match those cited elsewhere in the application. For example, the Outline Onshore Substation Design Principles Statement (Substation Design Statement) states that the finished ground levels for the eastern SPR substation would be 21.4m AOD79 (not 20.7m as stated in the OLMP) and for the western SPR substation the ground levels would be 19.8m AOD80 (not 18.2m as stated in the OLMP). As the visualisations are specifically referenced in the OLMP it is assumed that these were prepared on the basis of the lower ground levels stated in the OLMP. It is therefore likely that they present a better case scenario than if the higher ground levels cited in the Substation Design Statement were used.	<table><tr><td>Onshore substation – east</td><td>20.7m Above Ordnance Datum (AOD)</td><td>18.7m AOD</td></tr><tr><td>Onshore substation – west</td><td>18.2m AOD</td><td>18.2m AOD</td></tr><tr><td>National Grid substation</td><td>18.9m AOD</td><td>18.2m AOD</td></tr></table> The Applicants have also produced updated photomontages of the onshore substations based on these revised finished ground levels as submitted in ***Appendix 1*** of the ***Landscape and Visual Impact Assessment Addendum*** (submitted at Deadline 4, document reference ExA.AS-3.D4.V1)
94	OLMP Figure 8 shows the proposed permanent diversions of the PRoWs north of Friston. The loss of Fp 6 is proposed to be mitigated by introducing a new diversion along Grove Road, connecting to the remaining section of Fp 6 near Little Moor Farm.	N/A
95	***Comments on OLMP*** 11.9 The OLMP mitigation strategy cannot adequately mitigate the significant harm that would be caused by either one or both of the SPR substations being constructed alongside an NG substation and additional infrastructure. This is because that harm is caused by the location and scale of the development. The LVIA recognises this fact, by identifying significant permanent harm (moderate major adverse) to the character of the landscape north of and including Friston village and significant permanent harm to local visual amenity.	As described in full in the ***OLEMS*** (REP3-030), the landscape design approach for the onshore substation and National Grid substation combines the approaches of hiding and integrating them into the landscape to meet the mitigation requirements and also as a response to the local landscape character and the historic landscape context. This approach results in the onshore substations having a reduced landscape and visual impact in the long-term, with specifically placed woodland blocks/shelterbelts, hedgerows and tree lined field edges proposed to hide and integrate the onshore substation, reducing the visual impact in specific views towards the onshore substation experienced by people from residences, roads and PRoW, while

ID	Written Representation	Applicants' Comments
	11.10 As outlined within the OLMP, it is unrealistic to consider that the proposals could be screened entirely however, I consider it is also unrealistic to consider that the proposals could be integrated into this landscape. They cannot be integrated because of: • The lack of good design with regards to siting choices and therefore the incongruity of the proposals with the character of the local landscape in which they are located. • The lack of good design with regards to siting choices and therefore the totally unsympathetic scale and proximity of the proposals to Friston village. • The lack of careful design with regards to micro-siting. 11.11 Although SPR state that they recognise the importance of working with the landscape framework[81], there is little evidence of this within the OLMP figures, where the substations and ancillary infrastructure are shown to have been arbitrarily imposed upon the existing landscape framework. Figures 5, 7, 8 & 9 (of this report) are particularly helpful in illustrating the unsympathetic layout of the proposed arrangement relative to existing hedgerows, trees and woodlands, and the pattern/grain of the landscape overall. There is a lack of information concerning how landscape issues have shaped the micro-siting process, and the (mitigation) planting shown in the OLMP Figures. In particular, no information is provided regarding the influence of local landscape opportunities, constraints, or character. Considering only designations is not sufficient to ensure the best possible landscape fit. Figure 10 has therefore been prepared in order to show how the proposals, in terms of the siting/micro-siting of the substations, relate to the key local landscape constraints.	allowing the function of the onshore substations to be recognised and the open setting of villages, farmsteads and footpaths to be retained. The Applicants consider that 'good design' has and continues to be undertaken as part of the ongoing design iteration process. As described fully above in previous comments, this has been applied at various levels, from the strategic siting choices; local siting and co-location of the substations; the landscape design (OLMP) around the substation and within the substation layout itself, all of which with regard to reducing the harm to the landscape through careful siting and design. Following the decision to locate the onshore substation(s) at Grove Wood, Friston, a process of micro-siting was undertaken to refine the best location for the two onshore substations and the National Grid substation. The micro-siting process is described in ***section 4.9.1.4*** of ***Chapter 4 Site Selection and Assessment of Alternatives*** (APP-052). Co-location of the substations in one location allowed strategic mitigation planting to be focused in one area between the sites and the main receptor (Friston), with the changes in character and views focused in this location, rather than being dispersed over a wider spatial area. The Applicants' site master-planning sought to reduce, in so far as possible, landscape and visual effects of the substations, while also accepting that the operational requirements of the NE substation requires an alignment alongside the existing overhead transmission line and that the project substations have operational requirements relating to their orientation towards NG substation. The Applicants note the detailed information provided in the ***OLEMS*** (REP3-030) describing how landscape issues have shaped the mitigation planting shown in the OLMP figures, which describes the local landscape character, constraints and opportunities on which the OLMP is based, and the extensive consultation undertaken with relevant stakeholders.

ID	Written Representation	Applicants' Comments
		The Applicants note the ongoing design and micro-siting processing, including the reduction in the footprint of each of the onshore substations and their resulting relocation as summarised in the ***Project Update Note*** (REP2-007) submitted at Deadline 2, which further minimises effects on the existing landscape framework, including retention of an existing area of established woodland (in a depression to the west of PRoW E-354/006/0), which would have previously been removed, and minimising the intrusion of the western substation into the finer grained landscape of smaller enclosures to the south, such that the large majority of the substations area is within the larger scale field system to the north.
96	11.12 Section 3.5.4 of the OLMP sets out the assumed growth rates which have formed the basis for the vegetation shown in the visualisations. These growth rates have been reviewed by a local nurseryman (Mr Jon Rose). His comments are set out in a letter to SASES dated 27th October 2020, which is to be submitted by SASES. In that letter Mr Rose observes that the growth rates quoted in the OLMP used to determine the heights of the trees within W1, W3 & W4 (the main blocks of proposed woodland) may be significantly less that what has been assumed and can be '50% or less of what is predicted'. Mr Rose also explains how due to local weather and soil conditions, that high plant losses should be expected: 'Given the latest predisposed weather conditions of very dry Springs with little if any rain during the critical establishment period and given the types of soils in the area; high losses could be expected. I have seen losses up to 70% - 85% in nearby locations, necessitating a replanting program'.	The Applicants address the issue of growth rates in some detail in the ***Updated Photomontages Clarification Note*** (Doc Ref: ExA.AS-16.D3.V1) submitted at Deadline 3, particularly in ***section 3.1.4***. The Applicants are also engaging with the Councils on maintenance and aftercare measures that it could adopt in order to reduce the concerns expressed in relation to the growth rates and deliverability of mitigation in a timely manner. These are described further in the ***updated OLEMS*** (REP3-030) submitted at Deadline 3. In particular the Applicants proposes to prepare a LMP based upon an adaptive planting maintenance scheme (dynamic aftercare). The use of this adaptive planting maintenance scheme is intended to de-risk the timely delivery of planting, achieve optimum levels of plant growth and provide greater confidence that effective screening from the tree planted areas will be achieved. The Applicants note concerns regarding the potential for dry spring/summer conditions in Suffolk to hamper plant establishment, particularly in the period immediately after planting, and will ensure that the final LMP includes provision for the implementation of watering of newly planted and established trees during the aftercare period in order to promote growth.

ID	Written Representation	Applicants' Comments
		The Applicants consider that there is no reason to suppose that an effective and deliverable landscape planting and screening cannot be established, subject to approval of the detailed LMP design and appropriate preparation of soil, species, stock selection and quality of planting and aftercare.
97	***Recommendations*** 11.13 In line with the LVIA I do not consider the landscape and visual harm can be mitigated to a level where it is no longer significant. However below are key areas where I consider the proposals should be improved.	The Applicants refer to their responses provided below.
98	11.14 Some mitigation during the construction period could be achieved by agreeing that both the SPR substations and the NG substation would be constructed concurrently.	The Applicants are unable to commit to concurrent (in parallel) construction of both the SPR substations and the NG substation. The LVIA and embedded mitigation therefore assume that the Projects could be constructed sequentially or in parallel (concurrently).
99	11.15 With regard to developments where the impacts cannot be adequately mitigated, the Suffolk County Assessment (referring to wind turbines), describes the need to 'compensate for the landscape impact of the development by providing a long-term legacy of landscape compensation', improving the condition of the landscape beyond the site of the development (in the case of wind turbines, 4-6km is suggested).[82] Reflecting upon this guidance, a high-level mitigation strategy has been prepared (Figure 11) which would: • Lessen some of the harmful aspects of the current proposal by consolidating the substations (and ancillary elements, if possible) within one field (Substation Zone). This would lessen the impact upon the local landscape framework and would better conserve existing landscape elements and the existing landscape pattern, enabling it to be used as a basis for mitigation planting (Screening Zone).	The Applicants have been working with the Councils regarding other measures beyond the site of the development which could provide a long-term legacy of landscape compensation. This includes consideration of a scheme of offsite planting in the wider landscape zone around the substations. The Applicants are in ongoing discussions with the Councils in relation to such matters. Whilst the Applicants do not consider it necessary to establish planting outside of the order limits to make the Project acceptable in planning terms, the Applicants intend to enter into a section 111 agreement to provide funding to facilitate off site planting. The Applicants note the high-level mitigation strategy in Figure 11 of the SASES written representation and considers that the OLMP proposals address these recommendations for a 'substation zone', 'screening zone' and 'landscape enhancement zone' within the order limits. The Applicants are in ongoing discussions with the Councils in relation to such matters. Whilst the Applicants do not consider it necessary to establish planting

ID	Written Representation	Applicants' Comments
	• Improve the condition of the landscape across a wider area than is currently proposed to be planted/managed to provide a long-term legacy of landscape compensation (Landscape Enhancement Zone).	outside of the order limits to make the Project acceptable in planning terms, the Applicants intend to enter into a section 111 agreement to provide funding to facilitate off site planting. The Applicants note the ongoing design and micro-siting processing, including the reduction in the footprint of each of the onshore substations and their resulting relocation (as summarised in the ***Project Update Note*** (REP2-007) submitted at Deadline 2), which further minimises effects on the existing landscape framework, including retention of an existing area of established woodland (in a depression to the west of PRoW E-354/006/0), which would have previously been removed, and minimising the intrusion of the western substation into the finer grained landscape of smaller enclosures to the south, such that the large majority of the substations area is within the larger scale field system to the north. The Applicant considers that this will better conserve existing landscape elements and the existing landscape pattern, however the Applicant notes it is not possible to micro-site all of the substations into the 'one field' (substation zone) indicated due to size of the substation footprints, their required orientation to one another and the overhead line, and physical constraint separation that prevents them moving closer to Grove Road/Grove Wood to the east.
100	11.16 Within the Landscape Enhancement Zone, the following Land Management Guidelines[83] could be implemented, alongside any specific local requirements determined through local consultation: • Reinforce the historic pattern of sinuous field boundaries • Recognise localised areas of late enclosure hedges when restoring and planting hedgerows • Maintain and increase the stock of hedgerow trees	The Applicants note that all of these recommended land management guidelines are being proposed within the landscape area covered by the OLMP (***OLEMS*** (REP3-030)***, Figure 3-9***). Please refer to the Applicants' response provided in the row above regarding S111 agreement.

ID	Written Representation	Applicants' Comments
	• Maintain the extent, and improve the condition, of woodland cover with effective management • Maintain and restore the stock of moats and ponds in this landscape	
101	11.17 Other specific mitigation proposals recommended for inclusion, should either proposal be consented, are: • As the amenity derived from the open landscape would be entirely lost, it is recommended that substantial addition woodland planting is proposed alongside the northern sections of the new footpath, so that it runs through a wider woodland area. • Address deficiencies in the tree planting. Particularly the gap to the south east which means at from a section of Grove Road and the new footpath the substations would be clearly visible. • Address micro-siting issues so that valuable landscape features such as the existing copse (identified on Figure 10) are protected.	The Applicants have also provided an ***updated OLEMS*** at Deadline 3 (REP3-030) which describes and illustrates changes to the OLMP to allow for the updated substation arrangements. Noting the changes made to this latest OLMP (***Figure 3-9***), the Applicants provide comments against each bullet point as follows: • Additional woodland planting is proposed to the north of the National Grid substation, particularly in the areas around the cable sealing end compounds and to the south of Little Moor Farm, to provide additional screening of these compounds in views from the north. Updates to the PRoW diversions and planting alongside PRoW have also been made, as shown in Figure 8 and described in ***section 3.5.13***, such that the PRoW to the north runs through sections of woodland and more open sections with hedgerow/tree lined avenues. • As described in the ***OLEMS*** (REP3-030), constraints are presented by the projects underground onshore cables coming into the onshore substations at this location (***OLEMS***, Figure 3 and Plate 3.4), however it has been possible to limit this 'gap' with a hedgerow planted across it and planting of shallow rooting species around the edges of the onshore cable route. • Due the reduction in the footprint of each of the onshore substations and their resulting relocation, the area of existing area of established 'copse' woodland (in a depression to the west of PRoW E-354/006/0) has been retained, which would have previously been removed. This also creates an area adjacent to this retained woodland where additional woodland planting is now

ID	Written Representation	Applicants' Comments
		proposed adjacent to the western substation, to provide further screening.
102	***Conclusion*** 11.18 The LVIA accepts that the mitigation proposals will remain significant for the lifetime of the substations. (Not reducing below moderate/major adverse). Improved mitigation might be achieved if; • It was agreed that the construction of both SPR substations and the NG substation was undertaken concurrently; • A genuine micro-siting exercise was undertaken which identified and worked with the grain of the landscape to assess whether a smaller more irregular footprint could accommodate the required equipment; • Consideration was given to consolidating some of the elements to achieve a smaller footprint; • Priority was given to mitigating the impact on Friston village, even if this might move the substations closer to Grove Road; • An enhancement programme was prepared which looked at improving the wider landscape rather than merely hiding views of the substations.	Comments provided above
12. Compliance with landscape related planning policy		
103	***Overarching National Policy Statement for Energy (EN-1).*** 12.1 The proposed development is not 'sensitive to place[84]' and the mitigation measures proposed in the OLEM will do little to improve this as is acknowledged in the LVIA. The fundamental problem is that the siting of the SPR&NG substations has not been as result of good design. The site selection process was flawed and failed to take into account the high value aspects of the landscape, the strong sense of place and local	The Applicants refer to the ***Substations Design Principles Statement*** submitted at Deadline 4, document reference ExA.AS-28.D4.V1) regarding good design and being sensitive to place in accordance with EN-1 and EN-3. -

ID	Written Representation	Applicants' Comments
	distinctiveness, the relationship with the village and the pattern of landscape and settlement and how this can all be experienced from the well-used network of PRoW. 12.2 The scheme does not show 'good design in terms of siting relative to existing landscape character, landform and vegetation.'[85] On the contrary it is in conflict with all the high value aspects of the landscape. 12.3 Having failed to carry out a fair site selection process there is no evidence that the design has been evolved or micro-siting has been employed to improve the relationship with the existing landscape . The final layout of substations and cable sealing end compounds does not respond to the existing landscape or make use features in the existing landscape in order to 'minimise harm to the landscape.'[86] 12.4 The location of the SPR&NG substations at Friston does not appear to have been influenced by topography or any other aspect of the existing landscape87 except the presence of the overhead transmission lines. As acknowledged in the LVIA the screening that might be achieved after 20+ years from the date of commencement would do little to mitigate the adverse landscape and visual impacts. 12.5 The proposals cannot achieve the type of good design sought in EN-1 (and emphasised in EN-3 & EN-5) because of their location, the conflict with the character and qualities of that location, and the lack of any micro-siting design process.	
104	**NPPF** 12.6 The proposals fail to recognise the intrinsic character and beauty of the countryside and in that regard should be considered to be inconsistent with the NPPF.	The Applicants refer to page ***section 6.3*** of the ***Development Consent and Planning Statement*** (APP-579) regarding the recognition of the intrinsic character and beauty of the countryside and compliance with NPPF policy.

ID	Written Representation	Applicants' Comments
105	***Suffolk Coastal Local Plan*** 12.7 The proposals are not sympathetic to the special qualities and features described in the Suffolk Coastal Landscape Character Assessment and should therefore be considered to be inconsistent with Policy SCLP10.4 of the Suffolk Coastal Local Plan. In particular, due to their location and scale, and the lack of good design, the proposals would not protect and enhance: a) The special qualities and features of the area, which relate to its unified deeply rural character; nor b) The visual relationship and environment around Friston village and its landscape setting; 12.8 Overall, the proposals are considered to conflict with the relevant national policy statements and national and local landscape policies.	Please see ***section 6.1*** and p310, section 6.23 of the ***Development Consent and Planning Statement*** (APP-579) and the ***Applicants' Responses to Examining Authority's Written Questions Volume 2 – 1.0 Overarching, general and cross-topic questions*** submitted at Deadline 1 (REP1-105) regarding good design and compliance with SCLP10.3-10.4. .
106	***Conclusion*** 12.9 National policy emphasises the importance of good design in terms of siting as a key means by which to minimise the harmful impacts of energy infrastructure on the landscape. The choice of Friston as a location for the SPR&NG substations was the result of a flawed selection process. The proposals have been located next to a small rural village in an area of countryside which is recognised for as a peaceful, deeply rural 'backwater'. The consequences of this location are landscape and visual effects which are both severe and permanent. These effects are not inevitable and there has been no evidence to show that the harm that would be caused by the substations has been minimised by a careful site selection process or by considered micro-siting.	The Applicants disagree and refer to Table 2.1 of ***Applicants' Comments on SASES Deadline 1 Submissions*** (REP3-072) regarding site selection.

Table 2.7: Applicant Comments on Appendix 3 – 'Landscape and Visual Issues relating to Site Selection for Onshore Substations' (SASES, September 2018)

ID	Written Representation	Applicants' Comments
1. Executive Summary and Conclusions		
1	***Review of Site Selection Process*** 1.1 – 1.8	No comments
2	1.9 A Red Amber Green (RAG) Assessment was undertaken of all sites.[5] The full details of this assessment, and in particular the landscape and visual assumptions that underlie it, have not been provided to the public. At the request of the Friston Village Working Group a note/memo was issued by SPR entitled Summary of Onshore Substation Site Selection RAG Methodology & Matrices (RAG Methodology & Matrices) (Appendix 5) This document provides some additional detail but insufficient to comply with the Guidelines for Landscape and Visual Assessment 2013 (GLVIA3) recommendation that the basis of judgements regarding landscape and visual effects is 'transparent and understandable, so that the underlying assumptions and reasoning can be examined by others.'[6] 1.10 Despite not being fully informed of all the assumptions on which the RAG Assessment is based, a review of the RAG Methodology & Matrices has identified a number of significant anomalies: • The Landscape Character and Sensitivity assessment, ought to have distinguished between landscape susceptibility and landscape value. • The results suggest that landscape value may have been double counted in the assessment, firstly with regard to the location of the sites and then buried in the conclusions with regard to landscape sensitivity; and	Please refer to the Applicants' comments on Sections 3 - 5 in this Table and ***Table 2.8*** of this document. The Applicants would like to emphasise that the RAG assessment does not in itself identify the chosen onshore substation site. The Applicant considers that the RAG assessment is the start of a process of identifying issues, from which further key issues were identified and considered in more detail. GLVIA3 relates to Landscape and Visual Impact Assessment (LVIA), which was not being undertaken at RAG assessment stage, however more detailed comparative LVIA material was prepared and considered in the AONB Appraisal (***Appendix 4.3***) and in the ***Summary Note on Landscape and Visual Impact and Mitigation*** (***Appendix 4.5***) which were undertaken as part of the site selection process and had full regard to the potential effects of the alternatives under consideration. The LVIA (insert doc ref es chapter) was undertaken in accordance with GLVIA3.

ID	Written Representation	Applicants' Comments
	• There are clear inconsistencies in judgments when the assessment of inland and coastal zones is compared. 1.11 Following the RAG Assessment an AONB special qualities assessment was undertaken. Annex A: Onshore Substations- Suffolk Coast and Heaths AONB Impact Appraisal (AONB Impact Appraisal). The study acknowledges that there are a number of characteristics of the coastal sites which would lessen their landscape susceptibility to large-scale electrical infrastructure. Conversely the inland sites are 'susceptible to change in their own terms, relating to the ability of the existing rural landscape character (which is relatively less modified by existing energy developments), to accommodate substation development of this scale. There are also inherent visual sensitivities due to the proximity of rural residences and small-scale rural villages to these zones, and potential physical landscape effects resulting from the onshore cable route crossing of existing woodland at Aldeburgh Road.'[7] 1.12 As the brief was to consider the potential degree of harm to the AONB for each zone it was a foregone conclusion that in the end the study recommended that the site selection process should concentrate on 'the western zones, which are located well outside the AONB, in areas where the substations would not affect the special qualities of the AONB or its immediate setting.' 1.13 In addition to the RAG Assessment (the full detail of which has not been released) and the AONB Impact Appraisal (the full detail of which has been released) SPR undertook a high-level landscape and visual impact assessment (LVIA) 8. We have no detail of this study except its conclusion that 'Zone 7 affects fewer landscape and visual receptors overall9. Again, we cannot examine the underlying assumptions and reasoning behind this conclusion.	

ID	Written Representation	Applicants' Comments
3	***Landscape and Visual Appraisal*** 1.15 We have undertaken a high-level Landscape and Visual Appraisal of both Zone 7 (Friston Site) and the EDF site put forward by the Councils. 1.16 The Friston Site is located in Landscape Character Areas (LCA) L1 Heveningham and Knodishall Estate Claylands. (Figure 02 Landscape Character) LCA L1 is identified as having a particularly unified character, a peaceful, deeply rural 'backwater' with little intrusion from modern development. The site lies between the overhead transmission lines, which are more than 1km from the northern edge of the village which includes Friston Parish Church (Grade II*). Although not a designated landscape it is a valued landscape, containing many of the characteristics noted in valued landscapes[10]. The site has been identified as having medium/high susceptibility to large-scale electrical infrastructure. Susceptibility is the ability of a landscape to accommodate a particular form of development 'without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies'11 This is due in particular to: • The proximity of the village; • The role of the site in providing a setting for the village; • The presence of Friston Parish Church which forms a local landmark; • The general lack of large-scale infrastructure apart from the overhead transmission lines which are more than 1km form the village; and • The existing perceptual qualities of a tranquil deeply rural landscape.	The Applicants note that this is a comparative assessment by SASES of the onshore substation site at Friston and Broom Covert at Sizewell. The Applicants refer to their responses provided in ***Table 2.1*** of ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072) regarding site selection.

ID	Written Representation	Applicants' Comments
	1.18 The simple arable land cover pattern reduces the susceptibility of the area while other aspects, such as scale, enclosure and landform indicate some susceptibility. 1.19 Being a valued landscape the overall sensitivity of the landscape, which is a combination of susceptibility and value, to large-scale electrical infrastructure is medium/high. The magnitude of change to the landscape would be large due to the scale of the development, its height and extent and its incongruity. The overall impact on the character of the landscape surrounding the site would be moderate/major adverse. 1.20 There is potential for major adverse visual effects due to the proximity of high sensitivity receptors in Friston and the potential for the development to dominate the northern edge of the village, including from across the village green. 1.21 The EDF site is mostly located within LCA K3 Aldringham and Friston Sandlands LCA. (Figure 02) It is within in an area of significant contrasts. The presence of the coast is not obvious in the area surrounding the site but the presence of the two Sizewell Power Stations, the overhead transmission lines, the Greater Gabbard Substation and, to a lesser extent, the Galloper Substation are evident. The area also contains some scenic areas which are representative of the special qualities of the AONB. The site is located within the AONB and therefore was deemed to be national value when the AONB was established in 1970. Since 1970 the quantity of large-scale infrastructure for electrical generation and transmission in this area has increased significantly. 1.22 Our assessment identifies that the site has low/medium susceptibility to large-scale electrical infrastructure due in particular to: • The level landform;	

ID	Written Representation	Applicants' Comments
	• The presence of large-scale energy generating and transmitting infrastructure; • The presence of existing screen planting along Sizewell Road and Lover's Lane; • The lack of sensitive landmark features; and • The lack of a sense of remoteness and tranquillity due to the existing large-scale infrastructure. Other aspects, such as scale, land cover pattern and the proximity of Leiston indicate some susceptibility. The location of the site within the AONB and the national value that this implies means that although the susceptibility of landscape is low/medium the overall sensitivity is medium/high. The magnitude of change to the landscape would be medium because the scale of the development would not be out of keeping with the scale of the surrounding infrastructure. The overall impact on the character of the landscape surrounding the site, including a consideration of its AONB status, would be moderate adverse.	
4	***Conclusion*** 1.25 Our assessment has concluded that there would be significantly less harm to existing landscape character and to visual amenity if the Substations were located on the EDF site. The siting of such infrastructure in a landscape that is already characterised by large scale energy infrastructure would reduce their incongruity and limit the harm to the landscape. In contrast, the landscape surrounding the Friston site has a deeply rural, unified character, with limited intrusion from modern development. The substations could not be accommodated without	The Applicants consider that the site selection process was transparent and undertaken in line with best practice. During the site selection process, the Applicant met with, presented and discussed the site selection and RAG assessments across a series of ETG consultation events in Suffolk with a range of stakeholder experts. The site selection ETGs included review of all environmental considerations of the alternative zones, including landscape and visual, the RAG criteria and scoring, which was an iterative process. The alternative sites were robustly considered and challenged, both within these ETG stakeholder meetings; and internally through peer review of the alternatives. The site

ID	Written Representation	Applicants' Comments
	significant harm to the local landscape, the setting of the village and the visual amenity of residents of Friston. 1.26 We do not have confidence in the site selection process undertaken by SPR because, with regard to landscape and visual effects, it is not transparent and is marred by buried, unidentified assumptions..	selection was also subject to public consultations throughout the process. The culmination of the various work streams described in ***Chapter 4 Site Selection and Assessment of Alternatives*** (APP-052), and a range of technical, environmental and policy factors, enabled the Applicants to decide that the substation zone at Grove Wood, Friston (Zone 7) as the selected zone to be taken forward). In terms of landscape and visual effects, all of the alternatives considered within, or on the edge of the AONB, were in sensitive locations. None of the eastern Zones 1 – 4 and 8 could be considered favourably given the constraints from a landscape and protection perspective and having viewed them all in detail. Despite the potential for localised significant effects, Zone 7 was considered to be the only option outside the AONB with potential for development within the existing and proposed landscape framework. Although it has sensitivity locally, the onshore substation(s) site benefits from notable screening from Grove Wood and Laurel Covert, the level of which was not present in any of the other alternatives outside the AONB. Zone 7 also afforded the best opportunity to avoid 'whole project effects' on the AONB in combination with the Projects offshore windfarms and avoid cumulative effects with the proposed Sizewell C development on that part of the AONB. These effects could be avoided by siting the substations within Zone 7 inland, outside the AONB, since they have no effect on the areas of the AONB that will be affected by the Projects windfarms; or on the area of the AONB that will be affected by Sizewell C.

ID	Written Representation	Applicants' Comments
		Ultimately the substation options within Zone 7 were considered to represent the best opportunity to minimise and localise, insofar as possible, the extent and magnitude of landscape and visual effects; avoid significant effects on the nationally designated landscape of the AONB; and avoid harm to the AONB through 'severance' of the AONB and compromising its integrity and special qualities, compared to other alternatives considered adjacent to and within the AONB.
2. Introduction		
5	2.1 – 2.6	N/A
3. Review of Assessment undertaken by ScottishPower Renewables		
6	3.1 – 3.29	The Applicants note that this is a comparative assessment by SASES of the onshore substation site at Friston and Broom Covert at Sizewell. The Applicants refer to their responses provided in ***Table 2.1*** of ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072) regarding site selection.
7	3.30 One of the subcategories under 'Landscape' is Landscape character and sensitivity to development. Appendix A gives the criteria as follows: Red = Higher identified sensitivity, Amber = Moderate, and Green = Lower. These are not criteria they are the judgements. They do not help to understand the criteria, the underlying assumptions, on which these judgments are based. As we do not know the assumptions on which these judgements have been based we do not know if they are based on current best practice as set out in GLVIA3. 3.31 Landscape sensitivity as defined by GLVIA3 is is derived from: 'combining judgements about susceptibility [of the landscape] to the type	Please see the Applicants' comments on landscape and visual site selection criteria and application in ***Table 2.8*** of this document. .

ID	Written Representation	Applicants' Comments
	of change or development proposed and the value attached to the landscape'.[33] • The susceptibility to change of a landscape is: 'the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or areas, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies'.[34] • Landscape Value 'the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a variety of reasons...A review of existing landscape designations is usually the starting point in understanding landscape value but the value attached to undesignated landscapes also needs to be carefully considered'.[35] 3.32 It is particularly important in this instance that landscape value has not been 'double or triple counted' by being included in the subcategory 'Potential to affect the special qualities of the AONB' and/or the second category 'Proximity to Special Landscape Areas (SLA)' and then again in the assessment of Landscape character and sensitivity to development. Because we have not been told the assumptions on which the judgments are based we cannot tell if double or triple counting has occurred. We can only suspect this has occurred from the results. 3.33 To be consistent with GLVIA3 the title of this landscape sub-category ought to have been Landscape Character and Susceptibility not sensitivity. A number of the assessments in the category are very surprising and this leads to the conclusion that landscape value has encroached on this category. For example, Both W1 and W1a (Zone 7) are assessed as	

ID	Written Representation	Applicants' Comments
	'green' implying lower landscape susceptibility, whilst E2 & E2a (Zone 3) are assessed as amber, 'moderate' susceptibility. E2/ Zone 3 is a fairly featureless, flat, intensively farmed landscape, adjacent to a relatively busy road from which there are views of Sizewell A and B. In contrast Zone 7 is an attractive undulating landscape, displaying many of the landscape features identified as valued for the local landscape character area and providing an unspoilt rural setting for the village of Friston. As set out in Section 4 of this report, we consider that in terms of landscape character, W1/Zone 7 has medium/high susceptibility to the large-scale electrical infrastructure. Although this review contains an appraisal of the EDF site rather than E2/Zone 3 we consider that those two sites have similar susceptibility to large-scale electrical infrastructure and we consider that the EDF site has low/medium susceptibility (See Section 5). 3.34 We understand that a key difference between the two sites is that E2/Zone 3 is partly within and partly adjacent to the AONB whilst W1/Zone 7 is at some distance from it. This difference should be recognised in the appropriate assessment (landscape value) and should not be allowed to 'leak into' other assessments. 3.35 E2/Zone 3 is also identified as amber with regard to the subcategory 'opportunity to utilize existing features for screening' whilst W1/Zone 7 is assessed as green. Again, Appendix A provides no criteria on which these judgments are based. Grove Wood appears to be close to W1/Zone 7 but it lies on the opposite side of Grove Road and provides no screening for the key receptors – users of Grove Road, users of the Public Rights of Way (PRoW) that cross W1/Zone 7, and residents of and visitors to Friston village. 3.36 E2/Zone 3 is also identified as amber with regard to the subcategory 'visual sensitivity to development' whilst W1/Zone 7 is assessed as green. Both E2/Zone 3 and W1/Zone 7 contain PRoWs and in this respect have	

ID	Written Representation	Applicants' Comments
	similar visual sensitivity to development. However, E2/Zone 3 does not have an adjacent village, currently largely unaffected by large scale infrastructure. It is not clear on what basis E2/Zone 3 has been assessed as having greater visual sensitivity to development' than W1/Zone 7. 3.37 We have highlighted these differences, not to say that E2/Zone 3 should have been preferred over W1/Zone 7 - as there may be other, non-landscape and visual issues that make it less suitable - but to draw attention to the fact that the comparative landscape and visual assessments carried out in the RAG assessment contain significant inconsistences. Even without being provided with full information on the underlying assumptions behind the conclusions of the RAG assessment, the conclusions themselves can be seen to be unsound and therefore should not have been relied upon to inform the next stage of the Substations site selection process. 3.38 Of all the zones considered W1/Zone 7 is by far the largest. Within in, the RAG Assessment has identified two Sub Areas, W1 and W1a for the RAG Assessment. Based on the Substation Refined Area of Search both W1 and W1a are located to the west of Grove Road. We have been provided with no information as to why the area to the west of Grove Road has been preferred to the area to the east of Grave Road which represents more than half of Zone 7/W1. (See Figure 01, Appendix 1)	
8	***Identification of six key themes to be further explored*** 3.39 The Site Selection Report identifies six key themes for further exploration • Site selection relating specifically to the Suffolk Coast and Heaths AONB. • The specific landscape and visual impacts of the proposed substation infrastructure.	Please see the Applicants' comments provided below against each theme.

ID	Written Representation	Applicants' Comments
	• Construction impacts relating specifically to access to the substation zones. • The crossing of the Aldeburgh Road to facilitate a cable route to the west of Leiston and other pinch points along the cable route, including in particular effects on setting. • The inclusion of Sizewell land within the Onshore Study Area, and • Cumulative assessment in relation to National Grid Ventures (NGV) projects.	
9	***Site selection relating specifically to the Suffolk Coast and Heaths AONB*** 3.40 In order to address the first of these, an AONB special qualities assessment was undertaken. Annex A: Onshore Substations- Suffolk Coast and Heaths AONB Impact Appraisal (AONB Impact Appraisal). This study, as the name suggests only considered the potential for effects on the AONB. As the four coastal sites are all either within or close to the AONB, it is inevitable that the development of large-scale infrastructure on these sites will have an adverse impact on their special qualities though the degree of adverse impact might vary. The three inland zones do not have any inter-visibility with the AONB and it is therefore equally inevitable that no matter how great the landscape and visual harm might be to the local landscape character, it would not constitute harm to the AONB special qualities. 3.41 It is entirely proper that an assessment of the harm to the AONB special qualities is undertaken and that the sites in or close to the AONB should be assessed in terms of their relative effects. However, it is not reasonable that it should be carried out as a comparative assessment with sites that are not inter-visible with the AONB. Indicative of this is the fact	The Applicants note that SASES recognise that the development of large-scale infrastructure either within, or close to the AONB, will inevitably have an adverse impact on the special qualities of the AONB. These adverse impacts were identified by the Applicant through the AONB Appraisal (***Appendix 4.3***) (APP-444) and were a key factor in the site selection decision making. The western substation options within Zone 7 were considered to represent the best opportunity to minimise and localise, insofar as possible, the extent and magnitude of landscape and visual effects; avoid significant effects on the nationally designated landscape of the AONB in accordance with policies set out in NPS-EN1 (regarding protection of the AONB); and avoid harm to the AONB through 'severance' of the AONB and compromising its integrity and special qualities, compared to other alternatives outside the AONB.

ID	Written Representation	Applicants' Comments
	that the individual inland zones were not considered and only W3/Zone 5 assessed as a generic example of an inland zone. It is inevitable that the generic W3/Zone 5 was found to have no significant impacts on the special qualities of the AONB because it was located outside the AONB and its setting. 3.42 The study identifies a number of characteristics of the sites in or adjacent to the AONB which would lessen their landscape susceptibility to large-scale electrical infrastructure. In particular: • The existing influence of overhead transmission lines, Sizewell Power Station and large-scale electrical infrastructure associated with two existing wind farms, which have a notable influence on the perceived landscape and scenic quality of the area; • Other urban development influences; • The intensively farmed arable land with agricultural fleece/polythene and outdoor pig rearing in this area; and • The potential to consolidate large-scale electrical infrastructure development in an area which is already influenced by this form of development.36 3.43 In contrast the inland sites have far fewer characteristics that might be considered to lessen their landscape susceptibility to this form of development. 6.2 Summary of the AONB Impact Appraisal) states that: 'Although the zones to the west are not subject to landscape designation, the western zones are however, susceptible to change in their own terms, relating to the ability of the existing rural landscape character (which is relatively less modified by existing energy developments), to accommodate substation development of this scale. There are also inherent visual sensitivities due to the proximity of rural residences and	

ID	Written Representation	Applicants' Comments
	small-scale rural villages to these zones, and potential physical landscape effects resulting from the onshore cable route crossing of existing woodland at Aldeburgh Road.'37 3.44 However, because the purpose of the appraisal was to identify potential effects on the AONB, the study has to ignore the susceptibilities it has identified and conclude that the site selection process should concentrate on 'the western zones, which are located well outside the AONB, in areas where the substations would not affect the special qualities of the AONB or its immediate setting.' This conclusion is the inevitable consequence of the brief set for the study. It could have been reached without undertaking the study at all. What the study has identified is that the inland zones are also susceptible to change and potentially more susceptible as they are relatively less modified by existing energy developments and because of their inherent visual sensitivities.	
10	***The specific landscape and visual impacts of the proposed substation infrastructure*** 3.45 The second key theme is 'The specific landscape and visual impacts of the proposed substation infrastructure.' The Summary and Approach to Site Selection states that 'We have also undertaken a high level landscape and visual impact assessment (LVIA) on siting substation infrastructure within the zones we have identified. This work concludes that Zone 7 affects fewer landscape and visual receptors overall when compared to zones 2 and 3. This assessment also identified that Zone 7 benefits from substantial screening as a consequence of existing woodland. In addition, there are notable opportunities for further effective mitigation in the form of new woodland planting.'38 3.46 Although we are provided with the AONB Impact Appraisal in full, even though its conclusions are a foregone conclusion, we are not	The Applicants would refer to the 'high-level' LVIA undertaken in the Summary Note on Landscape and Visual Impact and Mitigation in ***Appendix 4.5*** (APP-446), which was undertaken and considered as part of the site selection process.

ID	Written Representation	Applicants' Comments
	provided with the high level landscape and visual impact assessment (LVIA) the conclusions of which are certainly not a foregone conclusion. The high level LVIA has been requested by SASES on a number of occasions. Unlike the AONB Impact Appraisal, the reasoning behind the conclusion of the high level LVIA that Zone 7 affects fewer landscape and visual receptors is not transparent and cannot be examined.	
11	***Construction impacts relating specifically to access to the substation zones.*** ***The crossing of the Aldeburgh Road to facilitate a cable route to the west of Leiston and other pinch points along the cable route, including in particular effects on setting.*** 3.47 The third and fourth 'key themes' are concerned with construction access and crossing the Aldeburgh Road. The Site Selection Report concludes that 'SPR believe there would be no lasting significant impact on the ecology or cultural heritage' as a result of the cable route. Although this review does not cover ecological or cultural heritage impacts SASES does not accept that \SPR have done sufficient work to show that there would be no lasting ecological or cultural heritage impacts. If dense woodland is removed on either side of the Aldeburgh Road this would also have lasting landscape and visual effects. In addition, selecting one of the inland sites, all of which require a long cable route, will inevitably result in significant temporary landscape and visual impacts.	The Applicants note that landscape and visual, ecological and cultural heritage effects of the crossing of the Aldeburgh Road are assessed in the ES, within the ***Chapter 29 - LVIA*** (APP-077), ***Chapter 24 - Archaeology and Cultural Heritage*** (APP-072) and ***Chapter 22 - Onshore Ecology*** (APP-070) .
12	***The inclusion of Sizewell land within the Onshore Study Area*** 3.48 The fifth key theme is the inclusion of Sizewell land within the Onshore Study Area. The conclusion reached by the Site Selection Report that 'EDF and Magnox land at Sizewell is not available or appropriate for acquisition' has been questioned by the Councils.[39] It is	The Applicants refer to their responses provided in ***Table 2.1*** of ***Applicants' Comments on SASES' Deadline 1 Submissions*** (REP3-072) regarding site selection. Please also see the Applicants' response to Q1.0.16 of ***Applicants' Responses to Examining Authority's***

ID	Written Representation	Applicants' Comments
	not within the scope of this review to judge whether the land is available or not. However, given that the Councils consider that 'on balance this location within the AONB would outweigh any other site in the wider countryside in the vicinity' [40] this review has undertaken a high level LVIA assessment of the EDF site alongside a similar assessment of the Friston Site.	***Written Questions Volume 2 – 1.0 Overarching, general and cross-topic questions*** (REP1-105)
13	*3.50 The Site Selection Report states that the final stage in the site selection process was taking a balanced view using:* • *The advice of industry leading legal advisors;* • *The advice of industry leading technical advisors;* • *SPR's project experience; and* • *Consideration of the advice: 'in the context of the comments and consultation feedback of both statutory and non-statutory consultees, the public and potentially affected parties.* *3.51 We do not have the full advice from the landscape and visual technical advisors so cannot fully examine whether the conclusions reached by SPR accurately reflect that advice. We do have a record of public comments and the letters from the Councils. It is hard to see how the feedback from members of the public has informed the site selections when, despite a question biased towards an inland location, more residents were in favour of a coastal location and expressed this strongly in their number of comments. Local Public opinion as channelled through the Councils also indicates that the opinion of the public and affected parties has not informed the decision.*	
4. Landscape and Visual Appraisal – Friston (Zone 7)		

ID	Written Representation	Applicants' Comments
14	4.1 – 4.31	The Applicant notes that Section 4 of Appendix 3 of the SASES September 2018 representation is incorporated within the main body of their October 2020 representation (REP1-365). The Applicant has provided comments on this above in **Error! Reference source not found.**.
5.	**Assessment of Landscape and Visual Effects (EDF Site)**	
15	***Introduction*** 5.1 A high-level LVIA has also been undertaken for the EDF site identified by the Councils (Page 4, in Appendix 3).[48] This site, which has not been included in any of the comparative assessments undertaken by SPR, is shown on Figure 01. ***Existing Landscape Character*** 5.2 The EDF site is located in National Character Area 82: Suffolk Coast and Heaths. Within the Suffolk Coastal Landscape Character Assessment, it is mostly located within LCA K3 Aldringham and Friston Sandlands LCA which is an Estate Sandlands LT. (Figure 02) The north eastern edge of the site is located in LCA D3 Minsmere and Sizewell Coast, a Coastal Broads & Marshes LT. 5.3 The Special Qualities and Features of LCA K3 are: • Much of the southern and eastern part of the Area is within the Suffolk Coast and Heaths AONB. This area features more of the remaining semi-natural habitats and less arable land but also features much more settlement.	The 'EDF site', referred to as Zone 8 Broom Covert, was included in the Applicants RAG Assessment (***ES Appendix 4.2***) (APP-443), as well as the AONB Appraisal (***Appendix 4.3***) (APP-444) and in the Summary Note on Landscape and Visual Impact and Mitigation in ***ES Appendix 4.5*** (APP-445). It was fully considered in the Applicant's comparative assessments during the site selection process. The Applicant notes SASES description of existing landscape character for the Broom Covert site, however it is notable that it only mentions that the site is located in the SCHAONB briefly at para 5.16 and does not provide adequate description of the defined Special Qualities of the SCHAONB, which are critical to understanding the baseline qualities of the landscape at this location within the SCHAONB. The Applicant does not agree that the overall susceptibility of the Broom Covert site to large scale electrical infrastructure is low/medium, as described by SASES, and considers the susceptibility to be higher than assessed by SASES, and that the landscape undoubtedly has high value (given its nationally designated status within the SCHAONB). A medium-high overall sensitivity is noted by SASES. The Applicant notes that this is the same overall sensitivity that SASES applies to the Grove Wood, Friston site, despite the Broom Covert location being subject to a national landscape designation (SCHAOB) and the Grove Wood, Friston

ID	Written Representation	Applicants' Comments
	• Aldringham Common is SPA and SSSI, part of a large tract of wildlife habitat that forms the Leiston-Aldeburgh SSSI which contains a rich mosaic of habitats • Two long distance footpaths pass through the area, The Sandlings Walk follows a route along the south of the and the Suffolk Coast path. The latter follows the route known as the Sailors' Path which connects Snape to Aldeburgh. • 14th century Leiston Abbey lies north-west of the town and is a Scheduled Monument. The atmospheric ruins of a small chapel can still be seen on the site of the original building. • The settlements of Aldeburgh and Thorpeness are key components of this landscape. They have very different appearance and histories, exerting a significant influence on the overall character of the area and shaping people's experience and recreational focus. 5.4 Strategy Objectives for LCA K3 include: • Protect remnant heathlands from any development that would result in their loss or reduction in area. • Protect the sense of separation and openness between the settlements of Aldeburgh and Thorpeness and avoid ad hoc and incremental development which urbanises this coastal landscape, particularly along the open coast road. 5.5 The description of LCA K3 includes 'Detracting features include the double row of giant pylons that cross the area, carrying power away from Sizewell, passing north of Aldringham. They have a substantial negative impact in the more open areas, and they distort the send of scale within the landscape. The white dome of Sizewell B has a similar effect on scale	site not being subject to such national landscape designation (or any designation) The feasibility of this alternative substation site at Broom Covert, Sizewell was explored alongside Grove Wood, Friston during the Applicant's site selection process. Phase 3.5 consultation was carried out to gather views on both sites. The AONB Appraisal work was also extended to consider Broom Covert (***ES Appendix 4.3***) and high-level site selection LVIA of the site and Grove Wood, Friston was undertaken in ***ES Appendix 4.5*** (APP-445). The likely harm caused by large-scale electrical infrastructure development at Zone 8, Broom Covert to the special qualities of the SCHAONB is acknowledged be SASES and this concurs with the findings of the Applicant's AONB Appraisal) – that development of the substations within Zone 8, Broom Covert, would be likely to result in significant effects on special qualities of the AONB. Although Zone 8 - Broom Covert was located in an area close to Sizewell Power Station, where there is a certain landscape rationale in consolidating further infrastructure development, it is located in an area where the landscape character has already been influenced and adversely affected by the development of large-scale energy generation and transmission infrastructure. The potential effects of siting the substations within Broom Covert, on the landscape and scenic qualities of the SCHAONB, would be further exacerbated by the proximity to this existing infrastructure. The effects combining to create a greater overall in-combination impact on the SCHAONB in this locality. Broom Covert is located near to where the SCHAONB is both narrow in width and having already had its landscape character influenced by

ID	Written Representation	Applicants' Comments
	although is perhaps more an accepted and familiar sight, up and down the coastal zone.'49 5.6 The Special Qualities and Features of LCA D3 are: • Outstanding nature conservation importance, reflected in Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar (conservation of wetlands) and County Wildlife Site (CWS) designations Minsmere regarded as an 'ark' for rare species of birds. • The power station provides a dramatic element and contrasts to the otherwise open and often desolate landscape • Despite the limited human settlement, the area contains important evidence of past settlement. 5.7 Strategy Objectives for LCA D3 include: • Protect the unspoilt character of much of this coastline from intrusive major infrastructure development which may penetrate areas currently devoid of such influences. 5.8 The EDF site identified by the Councils is located immediately south west of Sizewell Power Station. Lover's Lane and Sizewell Gap, the road that leads to Sizewell Beach, from the western and southern boundaries of the site. They are relatively busy roads with a footway. A belt of tree planting runs around the edge of the site adjacent to Lovers Lane, this belt is particularly wide and effective along Sizewell Gap. Between the site and Sizewell Power Station is a woodland, Rookyard Wood, and an area of dykes and linear tree belts. 5.9 To the east of the EDF site lie Substations for Greater Gabbard Offshore Wind Farm and Galloper Offshore Wind Farm. The Greater	infrastructure. New substations at Broom Covert have the potential to overwhelm this part of the AONB and to replace the inherent character and prevent opportunities to enhance this part of the designated area. It would also further populate with energy transmission development the corridor of SCHAONB land between Sizewell and Leiston, with potential to sever the landscape character connectivity north and south of the Sizewell area. This 'severance' was considered to be of fundamental and material harm to the SCHAONB landscape; resulting in the AONB being split into a northern and southern area by an infrastructure 'corridor' extending inland from the coast. This 'severance' effect on the SCHAONB would have been difficult, if not impossible to mitigate, even with landscape mitigation, due to its fundamental position and footprint of development within the SCHAONB. The Grove Wood, Zone 7 sites were situated outside the AONB, avoiding any such potential for significant effects on the integrity of the SCHAONB; and offering the potential to provide mitigation of landscape and visual effects. In accordance with policies set out in NPS-EN1 (regarding protection of the AONB) and based on extensive advice and stakeholder engagement during the Phase 3.5 consultation, it was decided that the Grove Wood, Friston site offered on balance the most appropriate option for substation development.

ID	Written Representation	Applicants' Comments
	Gabbard substation is partly surrounded by Broom Covert. The more recently constructed substation for the Galloper Offshore Wind Farm, occupies approximately twice the footprint of that for Greater Gabbard, and is located closer to the EDF site. Substantial bunding works have been undertaken around the Galloper site, which have greatly assisted in reducing its visibility within the surrounding landscape. Including from a nearby PROWs, which run along the northern and north eastern edges of the EDF site. It then runs north and east of the Greater Gabbard Substation (along Sandy Lane) before joining Sizewell Gap close to the coast. A series of other footpaths lead south from Sizewell Gap. 5.10 Appendix 6 includes some extracts from the Galloper Wind Farm Project Environmental Statement – Chapter 6: Site Selection and Alternatives. This also included a RAG Assessment. Unlike the RAG Assessment for the Substations there are no undefined categories such as 'Landscape Character and sensitivity to development'. Instead the criteria under the landscape section are: • Is the site located within a designated landscape (AONB)? • Is the development proposal broadly compatible with the local landscape character? • How proximity is the site to existing industrial landscape? 5.1 To the west of the site is the urban edge of Leiston which is defined by the line of the Sizewell Railway. The Suffolk Coast Path and Sandlings Walk lie to the east of the site. The coast is not visible from this area. 5.12 As noted above most of the site is located in LCA K3 with only the north eastern edge in LCA D3. Although changes in landscape character are generally gradual rather than abrupt there is a marked change on the site between the north eastern edge, which is at a lower elevation, and the	

ID	Written Representation	Applicants' Comments
	rest of the site. The footpath runs through the north eastern edge and the presence of the adjacent Rookyard Wood limits views of Sizewell Power Station. This area is identified as bracken/heath on the OS map. 5.13 The remainder of the site, within LCA K3, is arable land or was previously in use as arable land as it is not currently cultivated and is developing a scrubby vegetation. From this part of the site, due to the slight increase in elevation, there are clear views of Sizewell A & B and of a long stretch of the overhead transmission lines. There are no views of the urban edge of Leiston. 5.14 The landscape surrounding the site is one of contrasts as noted in the LCA descriptions. The presence of the coast is not obvious in the area surrounding the site but the presence of the two Sizewell Power Stations, the overhead transmission lines and the Greater Gabbard Substation (more so than the Galloper substation) are very evident. These energy generation and transmission installations have a characterizing influence on the perceived landscape and scenic quality of the area. This impression is also reinforced by Sizewell Gap road which is a relatively fast and urbanised road, designed to accommodate construction traffic related to the nuclear power complex at Sizewell. Although the edge of Leiston is not visible from the site, it is about 300m at its closest (Sizewell Crossing). 5.15 The area does however still contain some scenic areas. The north eastern edge of the site is mostly screened form views of the infrastructure and to the north of the site Leiston Common and associated woods have retained a relatively unspoilt character. North and south of the site the nature conservation value of the landscape is evidenced by various ecological designations. There are no ecological designations within the site.	

ID	Written Representation	Applicants' Comments
	5.16 The site is located within the AONB and therefore was deemed to be national value when the AONB was established in 1970. Since 1970 the quantity of large-scale infrastructure for electrical generation and transmission in this area has increased significantly. ***Susceptibility to large-scale electrical infrastructure*** 5.17 The Susceptibility of the EDF site has been assessed on the criteria identified in the previous section, where useful a comparison with the Friston site has been made. 5.18 Scale: The EDF site is not part of a large-scale landscape. Fields are generally regular in shape and are similar to those around the Friston site. Medium Susceptibility 5.19 Enclosure: There is woodland in the landscape surrounding the site, in particular a woodland belt along Lover's Lane/Sizewell Gap which provides some screening of the site from the adjacent road and prevents some long-distance views. Low/medium Susceptibility 5.20 Landform & Topography: Most of the site is relatively level. If development avoids the lower north east corner of the site incongruous earthworks will not be required. The letter from the Councils identifies potential for 're-engineering in order to mitigate the overall height of the structures.'50 Low/medium Susceptibility 5.21 Land Cover Pattern: Although most of the site is or has recently been in arable land use there is a variety of land cover in the surrounding landscape. Medium Susceptibility 5.22 Settlement Pattern and Density: The urban edge is close to the site but there is unlikely to be a high degree of inter-visibility. The eastern edge	

ID	Written Representation	Applicants' Comments
	of Leiston does not have a strong or attractive relationship to the adjacent landscape. Medium Susceptibility 5.23 Visible Built Structures: The landscape in which the site is located is notably affected by the presence of large-scale electrical generation and transmission infrastructure. Low/medium Susceptibility 5.24 Landmark features: There are no sensitive Landmark features whose setting could be harmed by large-scale electrical infrastructure in this location. Low Susceptibility 5.25 Remoteness and Tranquillity: The presence of large-scale electrical generation and transmission infrastructure has significantly adversely affected the sense of remoteness and tranquillity in this landscape. However, it has not been lost entirely. Low/medium Susceptibility 5.26 In summary, the overall susceptibility of the majority of the site to large-scale electrical infrastructure is Low/medium. ***Potential for adverse visual effects*** 5.27 There would be three similar visual receptor groups likely to be affected by Substation development on the EDF site: Leiston and Sizewell residents; users of the network of PRoWs between Leiston and the coast; and users of the road network. 5.28 No photomontages have been prepared for development on this site. It is inevitable that there will be some adverse visual impacts in the surrounding landscape and that the area over which large-scale electrical generation and transmission infrastructure will have an influence will be extended. This high-level landscape and visual appraisal has identified Leiston Common as a location where such infrastructure may become visible where currently it is not a notable presence in the landscape.	

ID	Written Representation	Applicants' Comments
	5.29 There would be views of additional infrastructure for Leiston residents exploring the landscape to the east of the town and for visitors on their way to Sizewell Beach. However, views of such infrastructure are already a part of the experience of the landscape east of Leiston and would not be incongruous. ***Conclusion*** 5.30 The magnitude of change to the landscape would be medium because the scale of the development would not be out of keeping with the scale of the surrounding infrastructure. The susceptibility of the landscape is low/medium but due to its location in a nationally designated landscape the overall sensitivity would be medium/high. The overall impact on the character of the landscape surrounding the site would be moderate adverse. 5.31 With regard to the Strategy Objectives for LCA K351, large scale electrical infrastructure on this site, assuming it avoids the north eastern edge of the site, would not harm remnant heathland. There would be no impact on the sense of separation between Aldeburgh and Thorpeness. Large scale electrical infrastructure on this site would not introduce intrusive major infrastructure development into an area currently devoid of such influences. 5.32 Large scale electrical infrastructure on this site would cause some harm to the special qualities of the AONB. However, the national importance of the AONB has been factored into the sensitivity of this site and the overall landscape impact would be moderate adverse.	

Table 2.8: Applicant Comments on Appendix 4 – 'Review of Site Selection Criteria and Application' (SASES, March 2020)

ID	Written Representation	Applicants' Comments
Introduction		
1	*1. To assess and compare potential onshore substations sites Scottish Power Renewables (SPR) and the National Grid (NG) used a Red/ Amber/ Green (RAG) assessment approach. RAG assessments were carried out separately for potential SPR substation sites (serving East Anglia ONE North & East Anglia TWO) and NG substation sites. The criteria were almost identical.[1] Substation Action Save East Suffolk (SASES) have instructed Michelle Bolger Expert Landscape Consultancy (MBELC) to review the criteria used within the RAG assessments and their application.* *2. Appendix 1 to this Note contains the relevant RAG criteria and their application with regard to the scoring of the site options near Friston. For the SPR substations the relevant site references were 'Options 7/7A' and 'NG7' for the NG substation. We have set out below our comments with regards to each criterion and where relevant commented on any issues with its application.*	Site selection principles and criteria were adopted in line with National Grid's Horlock Rules, to avoid nationally designated areas; areas of local landscape designation and to take advantage of screening provided by existing features. Criteria selected for the RAG assessment are based on criteria for judging landscape capacity and sensitivity, for example proximity to valued landscapes, landscape character sensitivity, visual sensitivity/presence of visual receptors and opportunities to utilise existing features (such as woodlands) for screening and mitigation. Criteria were presented, reviewed and agreed with the Site Selection ETG. This enabled the comparison of sites based on agreed criteria and to assess the potential risks to proposed development options (***Chapter 4 Site Selection and Assessment of Alternatives*, para 132**). Each criterion was given a score of Red / Amber / Green, indicating the relative scale of adverse or beneficial attributes to siting development of the nature proposed (para 33, Appendix 4.2). The relative scale is important, zones were not judged against alternative sites outside the study area e.g. industrial/brownfield land, but with a relative scoring against one another. In relation to the coloured scoring, we would consider the potential risks of red being a 'high' risk; amber being an 'elevated' risk and green being a 'normal' risk. A 'green' scoring does not mean it is necessarily a low sensitivity landscape, but that it had a lower relative scoring against the other alternatives considered.

ID	Written Representation	Applicants' Comments
		RAG assessment is not an impact assessment but considers criterion with Red / Amber / Green scoring, indicating a weighting of the potential risks, or constraints/opportunities, of the substation sites in the alternative zones. The RAG assessment does not in itself identify the chosen onshore substation site. It was a tool that allowed sites to be compared and progressed to further assessment stages and considered holistically in terms of all environmental criteria. Following the RAG assessment (***Appendix 4.2***), an AONB Appraisal (***ES Appendix 4.3***) and a Summary Note on Landscape and Visual Impact and Mitigation (***ES Appendix 4.5***) were undertaken which went beyond the 'high level' scoring of the RAG assessment to a consideration of potential impacts on AONB qualities and potential landscape and visual impacts of development in zones both inside and outside of the AONB in greater detail to inform the site selection process.
Comments on RAG Criteria & Application		
2	***Potential to affect the special qualities of the AONB*** *3. Criterion is considered to be appropriate.*	The Applicants note this is considered an appropriate criterion.
3	***Proximity to Special Landscape Areas (SLA)*** 4. Criterion is considered to be appropriate however we are concerned that it has not been applied consistently. The impact of the proposed cable route connection on this criterion with regard to site options in the west of the Study Area (including Options 7/7A) was not identified. This cable route connection option runs across the Hundred Valley SLA. The tree loss caused by the cable route was accounted for under the criteria 'proximity to mature woodland' for all applicable options but this is not the	The Applicants note this is considered an appropriate criterion. As noted by SASES, the tree loss caused by the cable route was accounted for under the criteria 'proximity to mature woodland' and was allocated a 'red' scoring for Zones 5, 6 and 7 to the west. The requirement to utilise the Aldeburgh Road woodland as a crossing point for the cable route requiring removal of woodland (within the SLA) was recognised in the RAG assessment (***ES Appendix 4.2, para 50***) in relation to Zone 7 and

ID	Written Representation	Applicants' Comments
	same as acknowledging the impact on the SLA's overall landscape qualities.	was an important consideration in the balance of the site selection decision making.
4	***Landscape character and sensitivity to development*** 5. To be consistent with GLVIA3 the title of this landscape criterion should have been Landscape Character and Susceptibility not sensitivity. This is because landscape sensitivity as defined by GLVIA3 is derived from: 'combining judgements about susceptibility [of the landscape] to the type of change or development proposed and the value attached to the landscape'.[2] (See Appendix 2 for definitions of susceptibility and value). Value has therefore been double counted, as a value judgement it is also intrinsically part of the AONB/SLA criteria.	The Applicants note the use of the term susceptibility within GLVIA3, which is used across the Applicant's LVIA in ***ES Chapter 29*** (APP-077) as part of the consideration of sensitivity to change (when combined with landscape value). The Applicant considers that 'landscape character and sensitivity to development' is a wholly appropriate criteria for the RAG assessment, but notes that the term 'susceptibility' could have been applied - it is however, referred to in the criteria selected but not in the headings of the tabular assessment. The Applicants consider that landscape value judgement is an important criterion which warrants consideration in the RAG assessment as part of the AONB/SLA designation criteria and the landscape type in which the substation zones were located.
5	6. Options 8/8A scored Amber against Landscape character and sensitivity to development whereas Options 7/7A scored Green. The RAG assessment specifically acknowledges that the landscape character area (LCA) in which Options 8/8A are located is less susceptibility to substation development than the LCA in which Options 7/7A are located. Despite this Options 8/8A scored Amber, because it is within the AONB and the value of the AONB has been counted again, whilst Options 7/7A scored Green.[3] The difference between the two sites is their proximity to the AONB and this has already been recognised in response to the criterion Potential to affect the special qualities of the AONB. It should not have been allowed to 'leak into' this assessment as well.	With respect to Option 8/8A (Broom Covert), it was the Applicants assessment that the overall landscape sensitivity score at Option 8/8A (Broom Covert) was higher than at Grove Wood, Friston. The medium-high susceptibility of the landscape at Option 8/8A (Broom Covert) was noted in the RAG, along with its high landscape value, being within the nationally protected landscape of the SCHAONB. An AONB Appraisal (***Appendix 4.3***) and a high-level site selection LVIA and mitigation comparison (***Appendix 4.5***) of Zone 7, Grove Wood compared to substation zones in the east (within the AONB) was undertaken which went beyond the 'high level' scoring of the RAG assessment to a consideration of potential impacts on AONB qualities and potential landscape and visual impacts of development both inside and outside of the AONB in a greater level of detail, which are clear about the potential

ID	Written Representation	Applicants' Comments
		landscape and visual impacts of the alternatives under consideration and was available to the Applicant to inform the site selection decision.
6	7. We are also concerned that the Landscape character and sensitivity to development criterion does not appear to have been applied consistently or fairly. This is particularly evident in a comparison of Options 6/6A and Options 7/7A. Both Options are in the same LCA but Options 6/6A scored Amber whereas Options 7/7A scored Green. The assessment of Options 7/7A refers to detracting influences, such as the A12 road and 'intrusion of suburbanisation'. Neither of these factors are relevant to Options 7/7A. At the same time there is no description of the local landscape context at Friston which is relevant to Options 7/7A.	With regards to the consistent application of landscape character and sensitivity criteria, with reference to Options 6/6A and 7/7A (Grove Wood, Friston), the Applicants note that the locally distinctive characteristics of Option 6/6A identified in the RAG contributed to its 'amber' assessment against this criteria. These locally distinctive characteristics were not as evident in the initial RAG assessment of the landscape at Option 7/7A (Grove Wood, Friston), which was considered to have more of the typical characteristics of the Ancient Estate Claylands LCT in its plateau of medium-large scale farming landscape and woodlands. The locally distinctive characteristics of this landscape in Zone 7 were identified in the further assessment contained in the ***ES Appendix 4.5***.
7	8. We assume the A12/suburbanisation are referenced because they are relevant to the overall LCA in which Options 7/7A are located (the Ancient Estate Claylands LCA). However, these same influences have not been referenced in the assessment of Options 6/6A which is also within the Ancient Estate Claylands LCA. Furthermore, unlike 7/7A the assessment of Options 6/6A does highlight the local landscape context of Options 6/6A.	The Applicants accept that the A12 does not exert a local influence on the character of Option 7/7A (Grove Wood, Friston), it is not described in the Applicants subsequent local level assessment in the LVIA (***ES Chapter 29***) (APP-077), however it was noted in the RAG for the Ancient Estate Claylands LCT based on the Suffolk LCA description, which notes this LCT has been subject to change more widely because of its relationship with the A12. The scenic quality of Option 7/7A (Grove Wood, Friston) has however been influenced by detractors such as the agricultural intensification in the post-war period resulting in a larger scale field pattern to the north of the fields on the immediate norther edges of Friston, as well as contemporary influences such as the double row of overhead pylons and electrical lines crossing the landscape forming a large-scale electrical infrastructure influence, a number large-scale modern agricultural buildings and some intrusion of agricultural

ID	Written Representation	Applicants' Comments
		'suburbanisation'. These detracting features influencing landscape value are described in the ***Applicant's Response to Hearing Action Points*** (***Action 24, ISH 2***) (Doc Ref: ExA.HA.D3.V1).
8	9. It is significant that in the RAG assessment of the NG sites (which was undertaken separately but using the same criteria) NG7 (at Friston) scored Amber. The accompanying text is worded almost exactly the same as that undertaken for Options 7/7A, the SPR substations. We assume therefore that the Green scoring of the SPR substations, Options 7/7A, is a mistake as similar sites have been scored higher and there is no explanation why Options 7/7A should be scored lower.	Amber' RAG assessments were made in relation to NG7 substation for both 'Landscape character and sensitivity to development' and 'Visual sensitivity to development' (Table C1) and for 'Opportunity to utilise existing features for screening'. These differed from the project substations by virtue of its larger size and due to it being sited in a more open location with less existing woodland in the surrounds, being visible from PRoW and farms at Moor Farm/Redhouse Farm and Saxmundham Road, with less potential to utilise existing features for screening. It should be noted that NG7 substation location considered in the RAG assessment is not the location ultimately selected and assessed in the ES.
9	***Opportunity to utilise existing features for screening & Visual sensitivity to development*** 10. Both criterions rely upon an assessment of the screening provided around a site and the 'potential to mitigate the visual effects'. At Friston the woodland around the site is referenced under both criteria and appears to have been a key factor in Options 7/7A scoring green for both. We are concerned that the basis on which the criteria have been assessed are very similar and amounts to double counting. 11. We are also concerned that this criterion also does not appear to have been applied consistently. For example, it is unclear why Options 6/6A scored Amber with regard to 'visual sensitivity to development' whilst Options 7/7A were assessed as Green. Both are located in open countryside, near to settlement, and contain PRoWs and in this respect have similar visual sensitivity to development. Locally, Options 7/7A are	As identified in the RAG, Option 7 and 7a are locally visible from Grove Road to the south; the PRoW between Friston and Fristonmoor; and from Moor Farm/Little Moor Farm to north, however the landform of the site was noted as being relatively flat and well contained by woodlands in views from wider landscape. The presence of visual receptors having sensitivity to development was acknowledged in the RAG assessment, including Friston, however at the RAG assessment stage, with the position of Option 7 'within' Laurel Covert and 7a to the north of the main field boundaries, it was considered that there would be limited visibility from Friston, due to the extent of woodland cover to the north of Friston (Friston House Wood, Grove Wood) and strong hedgerows in fields to south of sites. This main settled area of Friston was also noted as being set back at greater distance (triangular area of 'infill' to the south) than the dispersed

ID	Written Representation	Applicants' Comments
	described as highly visible whereas visibility of 6/6A is described as more limited. The assertion that the existing overhead lines have a 'strong influence' over visual amenity for Options 7/7A is considered to be an exaggeration. No description is provided of the attractive views such as views towards Friston Church whereas the description of Options 6/6A highlights the area's 'distinctive character'. 12. As with the landscape criterion, the RAG assessment for the NG7 substation site, also located north of Friston, scored Amber with regard to 'visual sensitivity to development'. It not logical that there should be a difference between the two assessments and there is no explanation of the discrepancy.	northern edge of the village, separated by the village green and areas of common land around St Mary's Church. Views of the substations from within the village centre and this main settled area of Friston were considered unlikely (and this has latter been supported by the ZTV in ***Figure 29.8*** and by viewpoints within the village, such as Viewpoint 6 (***Figure 29.18e-Update***). More detailed visualisation information, such as photomontages, could not typically be available at the RAG assessment stage to fully understand the potential visual influence of the substations on Friston, however visualisations of the Grove Wood, Friston site were produced at Phase 3.5 consultation, as shown in the Consultation Report Appendix 8 pages 67 to 84 (Document 5.1.8), which included viewpoints from Friston, which were considered as part of the site selection process. The potential for screening of the developments by woodland at Grove Wood, Laurel Covert and Friston House Wood was an important factor in the visual sensitivity score in the RAG, compared to any of the other zones considered, which did not benefit to the same degree of screening by such well wooded landscape cover to afford screening. It was considered at the time of undertaking the RAG, that the visual amenity score of Options 7 and 7a was mitigated to 'green' by their position 'within' the envelope of Laurel Covert/Grove Wood; and entirely to the north of the smaller scale field system and in close proximity to the existing overhead lines. It should be noted that the position of the substation footprints considered in the RAG (***Appendix 4.2, Figure 3.2*** and ***3.7***) was different to the positions ultimately assessed in the ES LVIA, as the project substations were moved 'out' of Laurel Covert/Grove Wood further to the west and over the field boundaries. This was to accommodate an

ID	Written Representation	Applicants' Comments
		increased separation distance from Grove Road/Grove Wood and to accommodate the co-location of the NG substation to the south of the overhead line and regularise the orientation of each substation. Both onshore substation footprints were further north and east when considered in the RAG; and benefitted from a greater degree of screening by virtue of their position 'within' the envelope of Laurel Covert/Grove Wood. This movement in the location of the substation sites from the RAG locations to the position assessed in the LVIA contributed to some of the differences between the RAG scoring and the impacts ultimately assessed in the LVIA and cumulative assessments of the projects. It was considered that Options 7 and 7a, in their RAG assessment locations, would be well hidden and screened within the wooded envelope formed by Grove Wood/Laurel Covert and field boundaries/copse woodands to the south. As noted above, 'Amber' RAG assessments were made in relation to NG7 substation location by virtue of its larger size and due to it being sited in a more open location with less existing woodland in its surrounds, being visible from the PRoW and farms at Moor Farm/Redhouse Farm and Saxmundham Road, with less potential to utilise existing features for screening. It should be noted that NG7 substation location considered in the RAG assessment is not the location ultimately selected and assessed in the ES. Existing overhead lines were noted in the RAG as having a strong influence on existing visual amenity. The presence of the double row of high-voltage overhead transmission lines and associated pylons are visual detractors, because they form notable visual elements in the local

ID	Written Representation	Applicants' Comments
		setting of the landscape between the village of Friston and Fristonmoor, due to their large vertical scale and form.
10	***Proximity to Mature Woodland*** 13. This criterion is the only one to consider the impact on vegetation, but its scope, focusing only on mature woodland, is considered to be unduly limited. For a project of this scale and nature a criterion should have been included/ or this criterion amended to consider the potential impact on other vegetation such as important hedgerows. Without considering other vegetation, the RAG assessment failed to recognise the potential of Options 7/7A/NG7 to have a particularly harmful impact on the vegetation framework north of Friston.	Detailed baseline relating to Hedgerows is provided in ***section 22.5.2.2*** of ***Chapter 22 Onshore Ecology of the ES***. A hedgerow schedule is provided as ***Annex 1*** to the ***OLEMS***. The construction of the Projects is not seeking to fully remove these important hedgerows but is to remove short sections to accommodate the onshore cable route, or (in particular at the onshore substation location) for further landscape mitigation such as tree planting or strengthening of hedgerow sections.
11	***PRoW/NTs*** 14. Only a Green or Amber score was possible against this criterion. The RAG assessment should have included a Red score to acknowledge sites which sever a PRoW such as Option 7. A wider consideration of the overall impact of the development on PRoWs (e.g. resulting from access roads etc), not just the substation site specifically, should have also been considered.	Public Rights of Way was scored as 'green' for Option 7 as there were no PRoW within 100m and 'Amber' for 7a as a PRoW crosses the site.
12	***Missing Criteria*** 15. The following considerations were not included in the RAG criteria and should have been: • The overall amount of land required (or development footprint). This is significantly greater for sites in the west of the study area (e.g. Options 7/7A) compared to those in the east due to the land required for the cable route.	The Applicants note the following in relation to each criteria: • The site selection process was undertaken in phases with the identification of preferred zone(s) for substation sites identified prior to identification of the preferred cable route, however the overall amount of land required including the cable route was a factor in the site selection decision making. • Relationship to settlements and views was considered as part of the 'visual sensitivity to development' and 'presence of residential properties' criteria. The relationship and susceptibility

ID	Written Representation	Applicants' Comments
	• *Relationship to settlements. This is a significant omission particularly in the case of the Friston options.* • *Local landscape character. It is not appropriate to focus only on LCAs which was the case for Option 7/7A.* • *Highways access was considered but not in terms of the length of access road required and its impact on the landscape resource. As such options 7, 7A and NG7 scored Green for highway access even though they require an excessively long access road, 1,700m.* • *The impact on important views and landmarks such as views towards Friston Church were not considered and this is another significant omission.*	of the main visual receptors including Friston were assessed further during the site selection process in the ***Summary Note on Landscape and Visual Impact and Mitigation*** in ***ES Appendix 4.5*** (APP-446). • LCAs are considered an appropriate basis on which to consider high-level RAG assessments and are supplemented by local landscape characteristics in the RAG where they were particularly notable at the respective substation zones. Further consideration of local landscape character was undertaken as part of the LVIA process. • Highways access (construction and operation) was considered as part of the RAG. • Potential for significant visual effects on the local PRoW network (from which there are views of Friston Church) were identified in the ***Summary Note on Landscape and Visual Impact and Mitigation*** in ***ES Appendix 4.5*** (APP-446) and considered in the site selection decision making.
Comments on Methodology		
13	*16. We note the following concerns regarding the RAG methodology more generally.* • The RAG Methodology states that 'RAG is a standard assessment tool used in the pre-EIA process to **assess the potential risks to proposed development options**'[4] (emphasis added). Whilst it is entirely correct that SPR/ NG need to 'assess the potential risks to proposed development options' it is not the same exercise as assessing the **potential environmental impacts** of development options, which ought to be a separate exercise. If considered at the same time as the	The Applicants provide the following comments to each concern on the methodology: As noted, RAG is a standard assessment tool used in the pre-EIA process to assess the potential risks to proposed development options. It is not an environmental impact assessment, nor can it be at such as early stage in the site selection process and with the many alternatives under consideration. It provides a 'scoring' with each development consideration was given a score of Red / Amber / Green to indicate the adverse or positive attributes to development respectively. Potential environmental impacts were however also considered at a high-level during the later stages of the site selection process through the ***AONB***

ID	Written Representation	Applicants' Comments
	consideration of potential environmental impacts, it has the potential to contaminate the process and the results. • No RAG assessment considered the impacts of all three substations in one location as the RAG assessments were undertaken separately for the SPR and NG substations. ES Appendix 4.2 explains that there was no RAG assessment which considered the impact of co-locating three substations on one site: 'This report does not provide a recommendation for preferred co-location of SPR substations and a NG substation as the issue of cumulative impact and capacity of the landscape to accommodate three substation sites of the size proposed is not considered in the RAG assessment – the relative merits of each site is assessed individually, to inform which areas to explore further as part of the site search. **The RAG assessment does not consider the combined effect / suitability of co-locating three substation sites for EA1N, EA2 and NG AIS together in one location. This would require a different scoring/RAG assessment'**.[5] (Emphasis added) Reference is made to a 'landscape capacity study' looking at the cumulative impact of locating three substations together undertaken after the site selection stage. We have not yet reviewed the capacity study in detail but will do as part of our ongoing review work. • A number of criteria could not score Red (only Amber or Green). Therefore, the conclusion in the RAG methodology that all criteria (considerations) were treated equally is incorrect.[6] Of particular relevance to Friston is the fact that a Red score was omitted from the scoring used to assess impacts on PRoW. The Friston site is one of only two that would actually sever a PRoW; an impact which we consider should have warranted a Red score.	***Appraisal*** (***ES Appendix 4.3***) and the ***Summary Note on Landscape and Visual Impact and Mitigation*** in ***ES Appendix 4.5.*** The potential landscape and visual impacts identified in these assessments of potential impacts were considered fully in the site selection decision making balance. The Applicants would also note that the site selection process was multi-disciplinary, covering several EIA aspects, and was not solely based on landscape and visual considerations (***ES Chapter 4, para 18***). The methodology identified development considerations equally i.e. there was no weighting of different development considerations (transport, ecology, landscape etc), so as not to prioritise particular environmental parameters (***ES Chapter 4, para 134***). For the purpose of the RAG assessment, two substations were assumed to be located within each of the zones (***Figure 3.2***), however at the RAG assessment stage, co-location was not definite, therefore the RAG assessment was undertaken for each of the onshore substation site options individually (1, 1a, 2, 2a etc) and for each of the NG substation individually (NG1, NG2 and so on), in line with the overall RAG assessment approach. The Applicant considers that the overall outcomes in terms of the relative scoring across substation zones would be similar relative to one another, even if each individual RAG scores increased with co-location of the three substation sites. The RAG assessment does not in itself identify the chosen onshore substation site. It was a tool that allowed sites to be compared and progressed to further assessment stages and considered holistically in terms of all environmental criteria. PRoW were assigned amber or green only due to the fact that PRoW can be temporarily or permanently diverted. PRoW was among a number

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	• The original RAG assessment was based on an assessment of broad development zones or areas of search. It is not clear when the assessment changed to an assessment of the substation options shown in ES Appendix 4.2 Figure 3.2 which are for specific substation sites. • ES Appendix 4.2 Figure 4.1. shows that the assessment of NG substation option at Friston was for a different location to that which is now proposed. It is shown further north and west from its proposed location and Friston village.	of factors which had to be considered as set out in Appendix B of the ***Onshore substation Site Selection RAG Assessment*** (APP-443) As described in ***Chapter 4 Site Selection and Assessment of Alternatives*** (APP-052), the assessment focused on substation options between phase 2 and phase 3 consultations via the ETG's. Please refer to ***Plate 4.2*** and ***section 4.9.1.4.1.*** The Applicants note that the position of the NG substation and the project substations considered in the RAG (***Appendix 4.2, Figure 3.2 and 3.7***) was ultimately different to the positions assessed in the ES LVIA, as the project substations were moved to increase the separation distance from Grove Road/Grove Wood and to accommodate the co-location of the NG substation to the south of the overhead line and regularise the orientation of the substations. Both substation footprints were located further north and east when considered in the RAG; and benefitted from a greater degree of screening by virtue of their position 'within' the woodland envelope of Laurel Covert/Grove Wood to the north of the smaller scale field enclosures and 'copse' woodland boundary. This movement in the location of the substation sites from the RAG locations to the position assessed in the LVIA contributed to some of the differences between the RAG scoring and the impacts ultimately assessed in the LVIA and cumulative assessments of the projects.
Conclusion		
14.	*17. The RAG assessment is flawed because it:* *• Failed to include key criteria such as local landscape character and the relationship to settlement.* *• Inconsistently applied criteria.*	The Applicants consider that the findings of the RAG assessment are sound and could be relied upon to inform the site selection process. The RAG assessment does not, however, in itself identify the chosen onshore substation site. It was a tool that allowed sites to be compared and progressed to further assessment stages. The Applicant considers that the RAG assessment is the start of a process of identifying issues,

ID	Written Representation	Applicants' Comments
	• *Contains double counting.* • *Weighted certain criteria differently without explanation (e.g. no Red score for PRoWs)* • *Did not consider all three substations together.* • *Was an exercise focused on assessing 'the potential risks to proposed development options' rather than the potential impacts of proposed development options.* *18. The findings of the RAG assessment are therefore considered to be unsound and should not have been relied upon to inform the next stage of the substations site selection process.*	from which further key issues were identified and considered in more detail. Following the RAG assessment, an AONB Appraisal (***ES Appendix 4.3***) (APP-444) and a Summary Note on Landscape and Visual Impact and Mitigation (***ES Appendix 4.5***) (APP-446) were undertaken which went beyond the 'high level' scoring of the RAG assessment to a consideration of potential impacts of development in zones both inside and outside of the AONB (including Zone 7 (W1)) in greater detail to inform the site selection process. This comparative material identifies the key landscape and visual issues, summarises the impacts and the potential mitigation and was all undertaken and considered as part of the site selection process.During this site selection process, the Applicant also met with, presented and discussed the site selection and RAG assessments across a series of ETG consultation events in Suffolk with a range of stakeholder experts. The site selection ETGs included review of all environmental considerations of the alternative zones, including landscape and visual, the RAG criteria and scoring, which was an iterative process. The alternative sites were robustly considered and challenged, both within these ETG stakeholder meetings; and internally through peer review of the alternatives. The culmination of the various work streams described in ***ES Chapter 4*** (APP-052), and a range of technical, environmental and policy factors, enabled the Applicants to decide that the substation zone at Grove Wood, Friston (Zone 7) as the selected zone to be taken forward (***Chapter 4, para 163***). In terms of landscape and visual effects, all of the alternatives considered within, or on the edge of the AONB, were in sensitive locations. None of the eastern Zones 1 – 4 and 8 could be considered favourably given the constraints from a landscape and protection perspective and having viewed them all in detail.

ID	Written Representation	Applicants' Comments
		Despite the potential for localised significant effects, Zone 7 was considered to be the only option outside the AONB with potential for development within the existing and proposed landscape framework. Although it has sensitivity locally, the onshore substation(s) site benefits from notable screening from Grove Wood and Laurel Covert, the level of which was not present in any of the other alternatives outside the AONB. Zone 7 also afforded the best opportunity to avoid 'whole project effects' on the AONB in combination with the Projects offshore windfarms and avoid cumulative effects with the proposed Sizewell C development on that part of the AONB. These effects could be avoided by siting the substations within Zone 7 inland, outside the AONB, since they have no effect on the areas of the AONB that will be affected by the Projects windfarms; or on the area of the AONB that will be affected by Sizewell C. Ultimately the substation options within Zone 7 were considered to represent the best opportunity to minimise and localise, insofar as possible, the extent and magnitude of landscape and visual effects; avoid significant effects on the nationally designated landscape of the AONB; and avoid harm to the AONB through 'severance' of the AONB and compromising its integrity and special qualities, compared to other alternatives considered within the AONB.