



The Planning Act 2008

East Anglia One North (EA1N) and East Anglia Two (EA2) Offshore Wind Farms

Planning Inspectorate Reference: EA1N – EN010077 & EA2 – EN010078

Deadline 2 - 17 November 2020

East Suffolk Council's Comments on the Applicants' Responses to Examining
Authority's First Round of Written Questions

East Suffolk Council (ESC) has provided comments regarding responses provided by the Applicants in relation to some of the questions asked by the Examining Authority as part of the first round of written questions (ExQ1).

ExQs 1	Question to:	Question:	1	2	Applicants Response	ESC Comments
1.0	Overarching, General and Cross Topic Questions					
1.0.1	The Applicant (Other Interested Parties (IPs)) with an interest in design are requested to comment at Deadline 2.)	<p>Good Design</p> <p>Section 4.5 of the Overarching National Policy Statement (NPS) for Energy (EN-1) emphasises the importance placed on ensuring good design in the development of infrastructure projects. This matter is cross-cutting in relation to multiple topics identified within the Initial Assessment of Principal Issues. Whilst the NPS is the primary source of policy under which the applications will be considered, policy within the National Planning Policy Framework (NPPF) advocates for good design as do the 'Design Principles for National Infrastructure', developed by the National Infrastructure Commission. Could the Applicant outline their approach to good design in respect of the following key elements, focusing on how each element reflects the principles of development responding to setting/place and people:</p> <p>a) offshore wind turbine generators and associated platforms;</p>			<p>A key factor in the UK's success in delivering offshore wind is the flexibility offered by the Rochdale Envelope approach in the consent process. This is recognised by NPS EN-1 (paragraph 4.2.8) as providing the necessary flexibility for further evolution and refinement of project design within the assessed maximum extents. This allows developers to utilise the most up to date technologies, principles and guidance as part of the final project design and at the construction stage. Table 6.1 Good Design, Alternatives and Adaption Policy Compliance of the Development Consent and Planning Statement (APP-579) provides detail on design against the relevant sections of NPS EN-1. The layout of the windfarm site, including wind turbines, inter-array, platform link cables and offshore platform locations have not yet been specified. Therefore, exact locations are not included in the Application. This is due to the requirement for flexibility on layout pending further</p>	<p>ESC has made comments in relation to the design and layout of the offshore turbines for EA2 in the Local Impact Report (LIR - Section 16) but ultimately defers to the expertise of Natural England.</p>

					<p>ground investigation, detailed design and commercial negotiations, and is one of the purposes of developing a project design envelope. In developing the final layout, the Applicants would aim to minimise environmental impacts (e.g. to ecology and archaeology) and impacts to other users (e.g. shipping and navigation) whilst maximising energy yield and cost efficiency. The reduction in the northern extent of the East Anglia TWO windfarm site following feedback to the Preliminary Environmental Information Report (PEIR) is a clear response to feedback on potential effects (Appendix 28.1 Seascape, Landscape and Visual Impact Assessment Consultation Responses (APP-556)). The Applicants refined the East Anglia TWO windfarm site area to reduce the magnitude of effect on onshore receptors. The reduction in the northern extent of the windfarm site was achieved whilst maintaining its generation capacity. The change resulted in:</p> <ul style="list-style-type: none"> • Reduced lateral spread of the proposed East Anglia TWO windfarm site; • Reduced effects due to more concentrated grouping of wind 	
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				<p>turbines than the 'spread-out' and more varied spacing of the PEIR layout;</p> <ul style="list-style-type: none"> • Increased offshore distance of the windfarm site for onshore receptors; and • Reduced cumulative landscape and visual effects on the Suffolk Coast and Heaths Area of Outstanding Natural beauty (AONB) due to increase in open sea horizon between the Projects' windfarm sites (see section 28.3.3 of Chapter 28 Seascape, Landscape and Visual Impact Assessment (APP-076) for further details). 	
		<p>Could the Applicant outline their approach to good design in respect of the following key elements, focusing on how each element reflects the principles of development responding to setting/place and people:</p> <p>b) onshore substations and grid connections;</p>		<p>With regard to the onshore substations, National Grid's Guidelines on Substation Siting and Design (The Horlock Rules) have been taken into consideration during the site selection process. The selected onshore substation location demonstrates good aesthetic as far as possible. Specifically, the selected location avoids all International, National, county and local landscape designations. It does not affect any ancient woodland and mitigation measures ensure hedgerow loss which would occur is compensated for in new planting around the onshore substation (Outline</p>	<p>Adequate embedded mitigation is essential in order to reduce the adverse impacts of the projects and seek good design. In order to achieve this ESC considers the Applicants should commit to making every reasonable effort to reduce the footprint and height of the infrastructure through project consolidation and design refinement. This will help to minimise the impacts of the developments on setting/place. This commitment should be secured in the design principles statements.</p>

				<p>Landscape and Ecological Management Strategy (APP-584)). The site benefits from existing natural screening provided by Grove Wood and Laurel Covert, as well as other smaller tree blocks and hedgerows surrounding the site. These landscape features provide screening principally from the east and create a wooded backdrop in views from other directions, below which the height of the onshore substation and National Grid substation will be contained and in so doing, make a design based contribution to the mitigation of landscape and visual effects. Appendix 4.1 East Anglia TWO and East Anglia ONE North Onshore Substations Site Selection RAG Assessment (APP-442) provides a detailed narrative of how the site selection for the onshore substations was undertaken. This incorporates design development considerations relating to archaeology, ecology and nature conservation, landscape and visual, hydrogeology and flood risk, engineering and design, community, property and planning. The final location and design of the onshore substations was further refined through phase 2, 3 and 3.5</p>	<p>In order to ensure that the developments appropriately consider the local community, the design principles statements should provide further details regarding the local community engagement in the design refinement process post consent. It is essential that this engagement is open and genuine and therefore an outline of this engagement should be provided by the Applicants.</p>
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				<p>consultation, preliminary environmental information and expert topic groups (section 4.9.1 of Chapter 4 Site Selection and Assessment of Alternatives (APP-052)).</p> <p>With regards to the grid connection specifically, in line with their duties under Section 9 of the Electricity Act 1989, National Grid are required to undertake an appropriate review through Connection and Infrastructure Options Note (CION) Process, having regard to the specific statutory duties incumbent upon them. In spring 2017, National Grid advised that, due to the changing contracted background and improvements to transmission technology, connection capacity could be available in the Sizewell area. The CION process reviewed all realistic options, and in summer 2017, concluded that the most economic and efficient connections for the Projects, while considering environmental and programme implications, would be into the circuits in the Sizewell and Leiston area (section 2 of the Development Consent and Planning Statement (APP-579)).</p>	
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				<p>Note that Requirement 12 of the draft DCO (APP-023) provides that no stage of the substation can commence until details of the layout, scale and external appearance of the onshore substation have been submitted to and approved by the relevant local planning authority, and the substation construction must then be carried out in accordance with those approved details. The details must accord with the outline onshore substation design principles statement and be within the Order limits. The Outline Onshore Substation Design Principles Statement (APP-585) was submitted with the Applications and an Outline National Grid Substation Design Principles Statement has been submitted at Deadline 1 (ExA.AS-6.D1.V1)</p>	
		<p>Could the Applicant outline their approach to good design in respect of the following key elements, focusing on how each element reflects the principles of development responding to setting/place and people:</p> <p>c) the onshore transmission cable, including any above ground ducting/chambers.</p>		<p>With regards to the onshore transmission cable and associated infrastructure, the commitment from the Applicants to bury the cables and have no above ground infrastructure is one of the key design choices made to minimise impacts.</p> <p>The route of the onshore cable corridor was influenced from the</p>	<p>ESC fully supports the commitment to have no above ground infrastructure along the cable route and acknowledges the measures taken to seek to minimise the impacts on the designated sites.</p> <p>ESC considers that further measures could be adopted in</p>

				<p>onset of the project design process by the location of designated sites, specifically Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB), The Sandlings SPA and component Leiston-Aldeburgh SSSI. The project design minimises the overlap of the onshore cable corridor with these designated sites, choosing a crossing of The Sandlings SPA at the narrowest point, within habitat where no records of the SPA interest features were found. The Applicants have committed to a reduced working width of 16.1m (reduced from 32m) within Sandlings SPA for a length up to 300m depending on the exact alignment chosen (section 22.3.3 of Chapter 22 Onshore Ecology (APP-070)). Crossing the SPA at the narrowest point also has the effect of minimising duration of impacts to the Suffolk Coast and Heaths AONB. ES Figure 21.2 (APP-269) shows the land cover and the cable route. It shows the avoidance of Urban/residential areas and other buildings & structures in general. The landfall location is also shown, to the north of Thorpeness. As such the cable route completely avoids Aldeburgh (south of Thorpeness),</p>	<p>relation to the method of construction which further would reduce the temporary impacts on the local community and environment. This would involve a commitment from the Applicants to construct both projects simultaneously, if this is not possible, then a commitment for the first project to lay the ducting for the second project.</p>
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				ensuring that there is no impact on the historic character setting of the edges of the town.	
1.0.2	The Applicant	<p>Good Design: Substations and Connections North of Friston EN-1 section 4.5 criteria for 'good design' for energy infrastructure states that applying good design to energy projects should produce infrastructure that is sustainable, sensitive to place, efficient in the use of natural resources and energy used in their construction and operation and be matched by an appearance that demonstrates good aesthetics as far as possible.</p> <p>Paragraph 4.5.3 of EN-1 requires applicants to take into account both functionality and aesthetics (including its contribution to the quality of the area in which it would be located) and encourages an applicant to take opportunities to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation.</p> <ul style="list-style-type: none"> • Explain how the criteria set out in EN-1 have been met in the location, layout, design and proposed mitigation in respect of the EA1N, EA2 and National Grid substations and grid connection location north of Friston. 		<p>With regards to good design, the onshore substations and National Grid substation have been sited outside the Suffolk Coast and Heaths AONB. The site selection process (Chapter 4 Site Selection and Assessment of Alternatives) (APP-052) indicated the onshore substation and National Grid substation could be accommodated at the Grove Wood, Friston site without significant effects on the special qualities of the AONB. The site benefits from existing natural screening provided by Grove Wood and Laurel Covert, as well as other smaller tree blocks and hedgerows surrounding the site. These landscape features provide screening principally from the east and create a wooded backdrop in views from other directions, below which the height of the onshore substation (eastern) and National Grid substation will be mostly contained and, in so doing, contribute to the mitigation of landscape and visual effects. This however will not mitigate views of the onshore substation (eastern) for</p>	<p>ESC considers that the Applicants should explore all opportunities to minimise the footprint and heights of the infrastructure through consolidation and design refinement. This would provide greater opportunities for sensitive siting of the infrastructure to reduce the impacts on the landscape and historic landscape features of the site. The sensitive nature of the site has resulted in a significant land take being required to provide mitigation planting.</p> <p>ESC would argue that the sustainability of the site is not being fully considered. It is known that the National Grid substation is being treated as a strategic connection point for future energy projects, but the National Grid substation and overall site are not being designed to reflect this purpose.</p> <p>Section 14 of the LIR discusses matters of design.</p>

					<p>residents at B1121 Aldeburgh Road, South of Friston. This will also be the case for residents at Grove Road, near Church Road, Friston for the East Anglia ONE North (western) onshore substation.</p> <p>From the outset, the design approach has included careful siting of the onshore substation and National Grid substation, which has set out to avoid key areas of sensitivity wherever possible. The onshore substation location avoids all international, national, county and local landscape designations. Embedded mitigation has included:</p> <ul style="list-style-type: none"> • Careful siting of the western onshore substation and National Grid substation to the west and south of existing woodland blocks, to gain maximum benefit from existing screening; and Careful siting of the western substation and National Grid substation in close proximity to the existing overhead lines, to reduce additional cabling requirements and to minimise proliferation of infrastructure. <p>The sensitivity of the landscape and visual receptors in the Landscape Visual Impact Assessment (LVIA) study area has been a key consideration in the siting and</p>	
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				<p>design of the onshore infrastructure (section 29.4.3.2 of Chapter 29 Landscape and Visual Impact (APP-077)). Furthermore, the capacity of the landscape to accommodate the onshore infrastructure has been assessed in relation to the natural screening afforded by landform, woodlands, trees and hedgerows. To gain a thorough understanding of the landscape's capacity to accommodate change, an assessment of the existing landscape character has been completed (section 29.5 of Chapter 29 Landscape and Visual Impact). Mitigation measures associated with the onshore substation and National Grid infrastructure form part of a strategic approach to enhancing landscape character and biodiversity in the local area. Details of the mitigation planting are presented in section 29.3.4 of Chapter 29 Landscape and Visual Impact and section 4 of the Outline Landscape and Ecological Management Strategy (OLEMS) (APP-584). ES Figure 29.11 Outline Landscape Mitigation Plan (OLMP) General Arrangement (APP-401) shows how mitigation planting would contribute to the wider landscape structure of the area and</p>	
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				<p>has been designed to screen the onshore project substation and help consolidate green corridors for wildlife. This includes woodland planting of:</p> <ul style="list-style-type: none"> • Core native woodland; • Screen native woodland mix; • Native woodland edge mix; • Native wet woodland mix; and • Native hedgerows. <p>Photomontage visualisations showing predicted views of the onshore substation are shown without mitigation and with the landscape mitigation at 15 years post-planting in ES Figures 29.13 (APP-404) to 29.25 (APP-416).</p>	
1.0.21	The Applicant	<p>Finished ground levels The dDCOs [APP - 023] state (R 12, para. 4 – Detailed design parameters onshore) that “finished ground level’ will be defined in accordance with the outline onshore substation design principles statement’ (OOSDPS). Section 4, para. 11 of the OOSDPS [APP – 585] sets out the anticipated finished ground levels and explains that ‘The final finished ground level will be established during detailed design post consent’. Finished ground level is a key dimension impacting on both the landscape and visual effects of the proposed substations; but is being established as</p>		<p>a) The Applicants agree that the finished ground level of the onshore substations and National Grid substation is a key dimension impacting on both the landscape and visual effects of the proposed substations. There is however an overall design concept that must be achieved in the design of the substations which also considers other factors including:</p> <p>a. Platform levels graded at 1:100 falls to facilitate the drainage of surface water across the platforms and through SuDS treatment before</p>	<p>a) ESC supports the Applicants presumption of achieving the lowest practicable finished ground levels and considers this should be articulated within the Outline Onshore Substation Design Principles Statement and Outline National Grid Design Principles Statement.</p> <p>b) ESC welcomes the Applicants commitment to provide a clarification note on the effects of reducing the finished ground levels and will review this after Deadline 3.</p>

		<p>an outcome of the design process rather than as a design principle. Please:</p> <p>a) Explain the approach taken to establishing the finished ground levels for the proposed substations in relation to the current landform/landscape north of Friston;</p> <p>b) Explain and illustrate the engineering, drainage, landscape and visual effect implications of lowering the current estimated finished ground level by up to 3m in 0.5m stages; and</p> <p>c) Propose a finished ground level dimension as an element of the outline onshore substation design principles to be secured in the dDCO.</p>		<p>discharge to the Friston Watercourse;</p> <p>b. Minimisation of cut or fill of earthworks materials, particularly to minimise potential need for import or export of excessive amounts of earth via the public road network; and a</p> <p>c. Presumption of achieving the lowest practicable finished ground levels to minimise visual impact. LIDAR data providing existing ground levels across the substation site have been used in combination with a conceptual design of the onshore substations and National Grid substation, and the inlet level of the Friston watercourse in order to establish a concept design for the finished ground level considering the above factors.</p> <p>b) The Applicants will submit a clarification note on the effects of reducing the finished floor level by 3m (in 0.5m increments) to the Examination at Deadline 3.</p> <p>c) The finished floor level can only be fully resolved through a combination of ground investigations and detail design. The Applicants are unable at this stage to confirm the precise finished ground level. It is also likely that the finished ground level will</p>	<p>c) It is understood that the final finished ground level is not yet known, but the Applicants could identify what finished ground level was utilised within the photomontages and visual impact assessments, this could then form the basis of the upper limit.</p>
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				<p>vary across each of the onshore substations and National Grid substation locations.</p> <p>The Applicants confirm the presumption of achieving the lowest practicable finished ground levels within the design to minimise the visual impact, whilst maintain the design integrity of the onshore substation and National Grid infrastructure.</p>	
1.4	Construction				
1.4.15	The Applicant	<p>Paragraph 310 says that “Cables will be placed directly underground without ducting, although ducting may be used in some or all of the route.”.</p> <p>a) Bearing in mind that there are two projects proceeding side by side onshore, should the onshore cables be laid in ducts throughout, with a view to reducing the construction impacts in the event that the projects are constructed consecutively rather than concurrently?</p> <p>b) What would be the advantages and disadvantages of installing ducts for the second project at the same time as installing the ducts and cables for the first project? And</p> <p>c) if the onshore works were carried out separately for each project, is it intended that the haul road would remain in place between the</p>		<p>a) The scenario described would reduce impacts, as per the rationale applied to East Anglia ONE and East Anglia THREE.</p> <p>The determining factor in terms of which construction scenario is adopted will be the outcome of the Contract for Difference (CfD) auction, scheduled to be held by the UK Government in 2021 and every two years thereafter. Depending on the auction prices achieved, the auctions could see 1 to 2 gigawatts of new offshore wind being deployed every year in the 2020s. Whilst the precise level of Government funding for each round of future CfD auctions is yet to be announced, it is clear that the Government is continuing to drive</p>	<p>a) ESC welcomes the commitment from the Applicants to investigate the possibility of installing ducts for both projects in parallel should the projects be constructed sequentially.</p> <p>The Council would prefer the Applicants to commit to constructing the projects simultaneously but if this is not considered possible, securing the installation of ducts for both projects in parallel would be fully supported and help to minimise the disruption from construction works. This would need to be secured through the DCOs.</p> <p>b) No comments.</p>

		<p>construction of the first and second projects?</p>		<p>the offshore wind sector to reduce costs. Recent CfD auctions have seen significant reductions in the cost of offshore wind projects. In 2015, CfD Round 1 (in which East Anglia ONE successfully secured its CfD), achieved an average clearing price of approximately £117/MWh. In 2017, CfD Round 2 achieved prices as low as £58/MWh. The offshore wind CfD prices for CfD Round 3 in 2019 were lower still at around £40/MWh. All indications are that this downward pressure will continue into the 2021 CfD auction, when the Projects are expected to enter the Round 4 CfD auction. This reduction in CfD strike price represents a significant challenge for the offshore wind sector to reduce construction costs, and is likely to result in only the most competitive projects receiving CfD support and therefore proceeding to construction. Acknowledging the extremely competitive market, in order to ensure the capital cost of both Projects are as competitive as possible, each project must bear its own construction cost. Should only East Anglia TWO be successful in the 2021 CfD auction for example, that</p>	<p>c) ESC supports the flexibility that Requirement 29 provides, allowing the potential for temporary works to not be reinstated within 12 months subject to ESC's agreement should be considered advantageous.</p>
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				<p>project may not be able to carry the significant cost of the duct installation for the East Anglia ONE North project as it would increase the East Anglia TWO construction costs, making the East Anglia TWO project less competitive and potentially jeopardising its ability to secure a CfD in its own right (and vice versa if only East Anglia ONE North was successful in the 2021 auction). In that case, both Projects would progress sequentially (construction scenario 2), with the project that was not successful in the 2021 auction proceeding to construction at a later date once it secures a CfD.</p> <p>The Applicants are currently investigating the possibility of installing ducts for both projects in parallel should the Projects be built sequentially. An update will be provided at Deadline 2.</p> <p>b) If ducts were used for the second project:</p> <ul style="list-style-type: none"> • Cables would be installed in sections between jointing bays, the worst case assumes 19 jointing bays along the onshore cable route. 	
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				<p>The jointing bays would need to be accessed via a haul road. Cables would be pulled through the ducts across the full-length of the onshore cable route.</p> <ul style="list-style-type: none">• The advantage would be to reduce the intrusiveness of the cable pulling when compared to open trenching for the second project. The footprint for impacts would be the same as per parallel construction, however some repeated impacts would be avoided or reduced in magnitude for the second project.• There are no disadvantages from this approach in terms of environmental impact. <p>c) Requirement 29 of the draft DCO (APP-023) requires that any land which is used temporarily for construction of the onshore works and not ultimately incorporated into permanent works or approved landscaping must be reinstated within twelve months of completion of the relevant stage of the works or such other period as the relevant planning authority may approve. The assumption would therefore be that the haul road will be removed and the land reinstated where there is a gap between the construction of the</p>	
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				<p>first project and the second project. However, there is scope for agreeing with the relevant planning authority that works are not to be reinstated within the twelve month period. This flexibility is intended to cover the situation where it would make sense (for example, from an environmental perspective) for temporary works to remain in place between the construction of one project and the construction of the second (i.e. where removal and reconstruction of the temporary works may give rise to more impacts than leaving them in place between the construction of the first and second projects might).</p>	
<p>1.4.16</p>	<p>The Applicant</p>	<p>Paragraph 313 says that “The precise location of the jointing bays will be determined during detailed design ... at a minimum of 55m from residential dwellings”.</p> <p>a) What factors govern the choice of 55m as a minimum distance?</p> <p>b) Will any part of a bay be at or close to ground level, such as to impede or damage agricultural plant or equipment?</p> <p>c) Will there be any infrastructure associated with the joint bays (e.g. link boxes or location markers) which will be at or close to ground level?</p>		<p>a) 55m was calculated as the minimum acceptable distance from residences for the avoidance of construction activities relating to jointing bays. The calculations were based upon a residential property within Category A (as set out within BS5228:2009 +A1:2014 Part 1, ABC Method) at night being exposed to noise levels no greater than 45dB. In addition to the plant, the use of mitigation in the form of temporary or movable acoustic barriers that could achieve a reduction of 10dB</p>	<p>ESC has previously received complaints as a result of noise from construction works at jointing bays affecting residential properties during the EA1 cable route construction.</p> <p>It is not clear from the Applicants response what calculation methodology was used to determine 55m as appropriate minimum distance between jointing bays and residential dwellings. This is because the construction noise assessment</p>

		<p>d) If so, will such infrastructure be clustered so as to minimise the impact</p>		<p>was also incorporated in the calculation of the setback distance. b) The jointing bays will be buried with a depth of cover of approximately 1.2m. Adjacent to each jointing bay will be two link boxes. The link boxes will also be buried, but will require surface level access covers to provide for maintenance and testing. Factors such as ease of access from the road network and current land uses will influence the final location of each jointing bay; they will be located adjacent to roads and field boundaries as far as is practicable. Reinstatement of original land uses along the onshore cable route will be undertaken as far as is practicable. c) The jointing bays will be buried with a depth of cover of approximately 1.2m. Adjacent to each jointing bay will be two link boxes. The link boxes will also be buried, but will require surface level access covers to provide for maintenance and testing. d) The link boxes and access covers will be the only near surface / ground level infrastructure at each joint bay. As noted in paragraph 314, the worst case assumption for jointing bays is 19 in total, each</p>	<p>report discusses a “5 dB(A) reduction” being applied to construction noise sources to account for noise mitigation measures as opposed to the 10 dBA barrier attenuation figure in the Applicants response.</p> <p>This will require clarification in the CoCP. If necessary, the minimum distance of 55m may need to be increased prior to sign off of the CoCP by the Council.</p>
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				located at 500m intervals. The exact locations are yet to be determined.	
1.4.32	The Applicant	<p>Paragraph 76 says that “A pre-construction land survey would be undertaken by a qualified Agricultural Liaison Officer (ALO) ...”</p> <p>a) Should the land survey be undertaken before site clearance starts? And</p> <p>b) what are the other duties of the ALO before, during and after construction?</p>		<p>a) A land survey should be undertaken at the appropriate time to establish the baseline condition before works such as site clearance commence.</p> <p>b) The main role an ALO would perform is to act as the liaison between the construction contractors and the landowners or occupiers to keep the landowners abreast of project programme, key activities they expect to be happening on sites; and ensure landowners or occupiers are aware of all health and safety procedures that may be relevant to them.</p>	ESC welcomes the Applicants response that the land survey will be undertaken to establish the baseline condition before site clearance commences.
1.4.34	The Applicant	<p>Paragraph 79 says in respect of noise and vibration management that “a programme of monitoring may be required.” and paragraph 85 says that “If it is deemed by the Local Planning Authority that during construction monitoring of construction noise is necessary, then the locations of such monitoring will be agreed in advance with the Local Planning Authority.”.</p> <p>a) Surely a programme will be required on a project of this scale in order to optimise mitigation? And</p>		<p>It is the Applicants’ understanding that the monitoring methodology set out within the Outline CoCP (APP-578) will only be implemented where issues arise (i.e. in the event of the Project receiving a noise complaint) or where noisy construction activities are anticipated to be undertaken in close proximity to noise sensitive receptors. The measures in relation to noise set out within the final approved CoCP prepared post-consent and in accordance with the Outline CoCP (APP-578) will be</p>	<p>The Council’s expectation is that the Applicant’s CoCP will set out a proposed noise monitoring programme early in the construction works to verify the models used in the construction noise assessment and identify areas where additional noise mitigation measures are likely to be required to comply with the limits set out in the construction noise assessment.</p>

		b) should the programme start with baseline measurements taken before site clearance starts?		based upon the detailed design of the Project and the construction methods to be employed by the appointed contractor. The Applicants do not consider it appropriate to commit to monitoring at this time, when the worst case construction noise assessed and presented within Chapter 25 Noise and Vibration of the ES (APP-073) may not materialise during construction. The Applicants will consult with the relevant planning authority through the post-consent stage when discharging requirements and throughout construction to establish the requirement for site-specific monitoring. Requirement 22 of the draft DCO (APP-023) includes the preparation of a construction phase noise and vibration management plan as part of the CoCP, which must be approved before works commence	
1.6	Connections				
1.6.1	The Applicant, National Grid	NSIP Definition of the Authorised Development Schedule 1 paragraphs 1 and 2 of the dDCO [APP-023] describes the authorised development as two NSIPs: • A nationally significant infrastructure project as defined in sections 14 and 15 of the 2008 Act (the wind turbine		a) The National Grid infrastructure included in the Applications is required solely for these Projects, therefore, the Applicants do not anticipate any point in the period to 2030 where they or a related Offshore Transmission Owner (OFTO) would cease to be the	The future connections and associated expansions required to the National Grid substation has been detailed in ESC and SCC's joint LIR (Section 6, para 6.48-6.54).

		<p>generator array) with associated development to make all of the offshore and onshore grid connection works; and</p> <ul style="list-style-type: none"> • A nationally significant infrastructure project as defined in sections 14 and 16 (electric lines) (for the connection point and National Grid substation works). Work No. 41 is the National Grid substation itself. <p>a) Is there an anticipated point in the period to 2030 at which the proposed development that is the subject of the East Anglia ONE North and the East Anglia TWO applications could in aggregate cease to be the predominant users of Work No. 41?</p> <p>b) If additional grid connections were to be made at this location what are the implications for Work No. 41 and any directly related works:</p> <ol style="list-style-type: none"> Will additional land be required; Will additional development (physical infrastructure be required); and If the responses to (i) and (ii) above are affirmative, can any clear projection be made as to the timing, extent and impact of these additional proposals? 		<p>predominant connector to Work No. 41.</p> <p>b) (i) If additional grid connections were made at this location, the Applicants consider that additional land would be required.</p> <p>(ii) If additional grid connections were to be made at this location, the Applicants consider that additional physical infrastructure would be required.</p> <p>(iii) The Applicants are unable to make any projection on the timing, extent and impact of any possible future proposals.</p>	<p>The Examining Authorities attention is also drawn to the following document which provide further detail https://www.nationalgrid.com/document/132456/download</p> <p>The information provided here indicates the size of the additional bays required for further connections and appears (in the absence of further information from NGET) likely to indicate not just requirements for the Nautilus project but further connections to the proposed NGET Air Insulated Substation at the Friston site.</p>
1.6.3	National Grid	<p>Operation and Further Development of Work No. 41</p> <p>If Work No. 41 is constructed and becomes operational, subject to</p>		No response	<p>Based on the current and emerging information it is considered that Work No.41 is in practice a general purpose substation facility operating as a</p>

		<p>responses to ExQ1.0.17 – 18 and 1.6.1 & 2 above:</p> <p>a) will it be more accurate to characterise it as:</p> <p>i. a National Grid facility accommodating the generating station development proposed in these applications (the East Anglia ONE North and East Anglia TWO Offshore Wind Farms, or</p> <p>ii. as a general purpose substation facility operating as a National Grid transmission asset, providing transmission connections for multiple users and purposes; and</p> <p>b) do the powers proposed to be provided by the dDCO [APP-023] and the description of development in the ES and the Works Plans provide sufficient scope to build and operate the facility that National Grid currently envisage?</p> <p>If the answer to (b) is no, does National Grid envisage there needing to be a further application or applications for development consent (or amendments to these development consents if granted) required to form and deliver the intended use and development of this facility?</p>				<p>National Grid transmission asset, providing transmission connections for multiple users and purposes.</p> <p>The alternative would be that Work No.41 is solely to facilitate the Applicants projects, as has been the case elsewhere, for example the Progress Power Gas Turbine at Eye airfield in north Suffolk.</p> <p>https://infrastructure.planninginspectorate.gov.uk/projects/eastern/progress-power-station/?ipcsection=overview</p> <p>It appears that the EA1N and EA2 projects could reasonably be characterised as the anchor tenants for what is a strategic connection site.</p>
1.8	Historic Environment					
1.8.4	The Applicant	Little Moor Farm and High House Farm			The relevance of the PRoW between Little Moor Farm and Friston to the	The information included in the Cultural Heritage Clarification

		<p>ES Appendix 24.7 [APP-519-520] sets out the assessment of the effect of the proposals upon the setting and the significance of Little Moor Farm and High House Farm/Moor Farm. This considers that the setting of Little Moor Farm would be changed from a predominantly rural agricultural character (albeit with existing pylons) to a mix of industrial infrastructure and rural agriculture, and that for Moor Farm the presence of the onshore substations and National Grid substation, only 450m to the south-east, would represent a significant change in the character of the landscape in views looking south-east in the setting of this heritage asset. However, harm in both cases is considered to be limited and low respectively. The ExA note that both heritage assets are linked to Friston by a PRow (Little Moor Farm more directly) which would be lost as a result of the proposals, and that potentially this PRow could have been a historical route linking the settlement and its church to the outer properties in the parish.</p> <ul style="list-style-type: none"> • Given the acknowledged significant change in the character of the rural landscape to the south of these heritage assets and the loss of a linkage 		<p>setting of heritage assets has been discussed in the Cultural Heritage Clarification Note submitted at Deadline 1 (ExA.AS-10.D1.V1). In the case of Little Moor Farm, it was concluded that severance of this route does not alter the assessment of impacts. Therefore, as summarised in Tables 2 and 3 of Appendix 24.7 (APP-519 & APP-520), there would be an adverse impact of medium magnitude on the significance of Little Moor Farm for all three scenarios, with and without mitigation.</p> <p>As described in paragraphs 52 and 53 of Appendix 24.7 (APP-519 & APP-520), these findings of medium magnitude impacts for Little Moor Farm reflect the fact that although there would be a significant change in the character of the landscape in views looking south in the setting, this constitutes only one aspect the significance of the asset and the magnitude of the impact on the overall heritage significance is still limited.</p> <p>This is because the significance of this Listed Building (and the justification for its designation) relates primarily to its historic fabric, which would be unaffected.</p>	<p>Note is considered sufficient, although the Council disagrees with the assessment it presents. The PRow is a historic connection between Little Moor Farm and the village core, which is a positive contributing aspect of the listed building's historic setting. It reflects a link between the main village and the later settlement on the edges of Friston Moor and it is therefore considered to contribute to the understanding of Little Moor Farm as a greenside farmstead.</p> <p>Nonetheless, within the terms used in Appendix 24.7, the Council agrees that the magnitude of adverse impact would be medium, as the loss of the historic track is one aspect of the overall detrimental impact of the erosion of the agricultural setting of the listed building and the loss of its historic relationship to the village.</p> <p>The loss of the PRow is not considered to affect the significance of High House Farm as it would the significance of Little Moor Farm. However, the Council disagrees with the assessment of the</p>
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		<p>to Friston, do you still consider such harm to be limited and low, and if so, why?</p>	<p>Screening by vegetation means that the historic character of the building can only be appreciated in close-range views and these views (particularly from the east) would not be affected. Similarly, our ability to appreciate the relationship between Little Moor Farm and the other historic settlements on the edge of Friston Moor would be unaffected.</p> <p>High House Farm was not discussed in the Cultural Heritage Clarification Note submitted at Deadline 1 (ExA.AS-10.D1.V1).]. This is because it is not directly linked to Friston by the PRoW that would be lost as a result of the Projects so the issue raised by the ExA with regard to Little Moor Farm does not arise. There is a second PRoW that runs south from High House Farm directly to Friston and this would not be affected.</p> <p>The analysis of the setting of High House Farm shares much in common with Little Moor Farm but, in the final assessment, impacts were judged to be of low magnitude i.e. less than at Little Moor Farm. This difference primarily reflects the fact that High House Farm cannot be so readily appreciated from its setting,</p>	<p>magnitude of adverse impact on the significance of High House Farm. The severity of the change to the landscape character of the setting of High House Farm is considered to be similar to that of Little Moor Farm, and therefore the magnitude of the adverse impact on its significance is also considered to be medium.</p> <p>The assessment of setting made by the Applicants relies heavily on the importance of views, whereas the Council maintains that the contribution that setting makes to significance does not depend only on views from the public realm.</p>
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				diminishing the contribution of the views affected by the proposed projects to the significance of this asset.	
1.8.5	The Applicant	<p>Friston House ES Appendix 24.7 [APP-519-520] considers that the proposed developments would have a very limited impact on the experience of Friston House in an attractive woodland setting and would not materially detract from the contribution that it makes to the significance of the house. While the ExA note your views in respect of the original layout of the house and its grounds, this original layout and woodland setting of the House itself is set within a largely rural open landscape which will undergo significant change as a consequence of the proposal.</p> <ul style="list-style-type: none"> • Do you consider that the proposal would have an adverse impact on this wider setting? 		<p>It is important to note that heritage policy does not recognise ‘impacts on setting’. It is concerned only with impacts on the significance of a heritage asset, which may result from change in the setting of that asset.</p> <p>As set out in the assessment of Friston House (from paragraph 71 in Appendix 24.7 (APP-519 & APP-520)), the contribution that setting makes to the significance of this asset is limited to the enclosed wooded grounds in which it was designed to be experienced.</p> <p>The wider landscape setting of Friston House makes no contribution to its significance and the predicted visual change due to the proposals (as illustrated by CH VP6 and CH VP7 of Appendix 24.7 (APP-519 & APP-520)) would have only a very limited impact on the experience of the house. In this context, the fact that the largely rural open landscape would undergo significant change has no impact on the significance of Friston House.</p>	ESC agrees with the Applicants assessment.

<p>1.8.6</p>	<p>The Applicant</p>	<p>Woodside Farm ES Appendix 24.7 [APP-519-520] considers that the presence of onshore substations and National Grid substation only 300m to the northeast would represent a significant change in the character of the landscape in views looking northeast in the immediate setting of Woodside Farm, but that “the magnitude of the impact on the overall heritage significance is limited”. While noting the reasoning within the document concerning screening, the ExA note that the proposed infrastructure would be located some 300m away from the property in an area of currently largely open farmland.</p> <p>Provide further justification for your view of limited magnitude of impact.</p>			<p>The analysis of the significance of Woodside Farm (from paragraph 81 of Appendix 24.7 (APP-519 & APP-520)) is similar to that at Little Moor Farm and the comment regarding ‘limited’ impact should be understood in the same way that it was at Little Moor. It is recognised that the change in landscape character without mitigation would be considerable but the impact that this has on the significance of the asset is limited by the fact that the rural landscape character is only one element that contributes to the overall significance. The significance of this Listed Building (and the justification for its designation) relates primarily to its historic fabric, which would be unaffected. There are no long-range views so the farmhouse is very much experienced in its immediate surroundings, within 200m, and the positive contribution that setting makes to significance is largely derived from this area. There would continue to be at least 300m of agricultural land between the farmhouse and the proposed substations and views of the</p>	<p>ESC considers that the magnitude of adverse impact on Woodside Farm would be medium, even if just the eastern substation was constructed, and regardless of the proposed mitigation.</p> <p>The agricultural character and openness of the site make an important contribution to the setting of Woodside Farm, as this setting supports the understanding of the building as a historic farmhouse with functional and physical connections to the surrounding farmland. The setting of the farm will be changed from an expansive agricultural landscape broken up with hedgerows and hedgerow trees, to a few small fields between the farmhouse and large-scale industrial structures partially screened by a large new section of woodland, which has no historic precedent in this location. Therefore, the Council considers that the proposed mitigation would not reduce the harmful impact of the proposed development.</p>
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				<p>farmhouse from directions other than the south-west would be unaffected.</p> <p>Nevertheless, this analysis still results in medium adverse magnitude for scenarios involving the western onshore substation.</p>	<p>Again, the Council maintains that the contribution that setting makes to significance does not depend on views from the public realm.</p>
1.8.7	The Applicant	<p>Church of St Mary - Friston ES Appendix 24.7 [APP-519-520] considers that setting contributes to the significance of the Church of St Mary on 3 levels; immediate, short range, and long range. This considers that setting would only be adversely affected at long range, with the National Grid substation and the EA1N onshore substation entirely obstructing the sequential longer-range views of the church tower from the north when approaching Friston on the public footpath from Little Moor Farm. The appendix notes that the loss of this footpath and the views from it would diminish the contribution that setting makes to the significance of the church at this spatial scale.</p> <p>Historic England [RR-047] notes that the Church lies on the northern edge of the village and is appreciated in a rural and largely open landscape setting enabling views from the south and north. This enhances its prominence and adds to</p>		<p>a) The Applicants have considered the remarks made by Historic England (RR-047) and the opinion expressed by the ExA regarding the rural setting of the church. The Applicants have reviewed the assessment in Appendix 24.7 (APP-519 & APP-520) (from paragraph 91) and do not regard any changes regarding impact significance conclusions as necessary.</p> <p>The analysis of the significance of the church (paragraphs 91-94 of Appendix 24.7) provides a comprehensive overview of significance, focussing on the contribution made by setting.</p> <p>The Applicants understanding of the predicted change in the setting of the church is supported by photomontages from six viewpoints (CH VP1, 2, 4 and 9; LVIA VP6 and 9 of Appendix 24.7 ((APP-519 & APP-520)). These provide representative views from all areas in the setting of</p>	<p>a) The Council echoes Historic England’s concerns about the impact on the setting of the Church of St Mary. The openness of the landscape heightens the building’s prominence in the landscape and enhances the rural character of its wider setting, both important aspects which contribute to its significance.</p> <p>Additionally, the key view of the church from the PRoW, that is thought to have been in existence in some form since the 10th century, would be obstructed by the Projects. The view from the historic common land at Friston Moor back towards the village core is a vital one in being able to understand how the settlement developed. The church tower is an important landmark and is key to connecting the dispersed parts of the village back to the core.</p> <p>Accordingly, ESC considers that</p>

		<p>the appreciation of the building. The ExA note that despite the advent of modern agriculture and the presence of the existing transmission lines, it is not inconceivable when on site to consider that the landscape surrounding the Church to the north and forming a key part of its rural setting has not substantially changed in many years. In particular visible and guides travellers to the settlement. The Appendix acknowledges that the proposed development would entirely obstruct such long-range views of the Church but considers that this would amount to an adverse impact of low magnitude.</p> <p>a) Given the acknowledged impact of the proposals on the views of the Church from the north and its impact on the wider rural setting to the north of the heritage asset, do you maintain that this would amount to an adverse impact of a low magnitude?</p> <p>b) Does this amount to substantial harm? How important is this and how might the harm be mitigated?</p>		<p>the church that contribute to its significance where at least some visual change can be predicted. Detailed analysis of this predicted change (paragraphs 104-108 of Appendix 24.7) leads to the conclusion that it would adversely affect the significance of the church in only one area. This is the approach to the church along the PRoW from Little Moor Farm. In all other cases, the degree of change in landscape character around the church or visual competition in views of the church is not sufficient to materially affect the contribution that setting currently makes to significance. Given that the adverse impact on the significance of the church derives from this one specific aspect of change in setting, with all other components of significance unaffected, it is the Applicants' view that it is entirely reasonable to conclude that this is an adverse impact of low magnitude on the significance of the church.</p> <p>b) As noted in the Applicants' answer to ExA Q1.8.3, an adverse impact of low magnitude is equivalent to less than substantial harm. The predicted harm to the significance of the church is therefore less than</p>	<p>the adverse impact on the Church of St Mary is of medium magnitude.</p> <p>b) Although there is a professional disagreement on the magnitude of harm, the Council considers that the harm would be less than substantial but within the higher half of less than substantial harm in the terms of the NPPF and NPS EN-1.</p> <p>The proposed planting included in the OLMP would not be considered to lower the magnitude of adverse impact, as it would not mitigate the loss of views from the north or the intrusion into the relationship between the church and the dispersed settlement around Friston Moor.</p>
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				<p>substantial. Applying the magnitude criteria used in Table 24.8 of Chapter 24 Archaeology and Cultural Heritage (APP-072) substantial harm would occur if a predicted impact met the criteria for high adverse impacts:</p> <p>“Key elements of the asset’s fabric and/or setting are lost or fundamentally altered, such that the asset’s heritage significance is lost or severely compromised.”</p> <p>This is considered to be consistent with the guidance on the meaning of substantial harm provided in Planning Practice Guidance: Historic Environment (Paragraph: 018 Reference ID: 18a-018-20190723, Revision date: 23 07 2019).</p> <p>In the case of the Church of St Mary, Friston, it is predicted that there would be less than substantial harm and that the level of harm does not come close to the threshold of substantial harm.</p> <p>The design of the Projects has sought to minimise the level of harm to the church by maximising of the distance of the substations from the church and minimising the height of infrastructure within the substations. Planting proposed as part of the Outline Landscape Mitigation Plan</p>	
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				<p>(APP-401-403) would have a limited further mitigating effect in views to the north from the church. No further measures have been identified that would mitigate the principle adverse impact on the significance of the church, caused by the obstruction of the PRoW from Little Moor Farm.</p>	
<p>1.8.9</p>	<p>The Applicant</p>	<p>Mitigation ES Appendix 24.7 [APP-519-520] states that the design of the OLMP [APP- 401-403] has considered the maintenance of views towards Friston Church and the retention of historic farmhouses in an agricultural landscape. The Appendix notes that in the area to the north of the onshore substations the OLMP has proposed the establishment of larger woodland blocks akin to the existing pattern of woodland blocks within the wider landscape and that planting is not proposed to enclose the historic farms in woodland, as this is not how they would have been experienced in the past. It also notes that the re-establishment of historically mapped tree-lined enclosures close to the farms has been proposed to retain farms in an open farmed landscape, whilst achieving screening through multiple</p>		<p>With regards to Little Moor Farm, paragraphs 151 and 152 of Appendix 24.7 (APP-519 & APP-520) state the following: “The OLMP proposes to reinstate lost field boundaries in the vicinity of Little Moor Farm, reducing field sizes and restoring the more enclosed field pattern that was the setting for the farm in the 19th century. It also proposes to create a new belt of woodland between Little Moor Farm and Fristonmoor Barn that will create a degree of separation between the onshore substations and National Grid substation and the properties on Friston Moor. Taken together, these proposals would not fundamentally screen the setting of Little Moor Farm from the onshore substations and National Grid substation but would create a more enclosed landscape between</p>	<p>ESC considers that the OLMP would not mitigate the harm caused by locating the substations in the setting of High House Farm, Little Moor Farm, Woodside Farm.</p> <p>While some historic field boundaries are proposed to be reinstated to the south of the site, the large areas of woodland have no historic precedent and merely have the effect of further severing the relationship between these historic assets and their open agricultural setting.</p> <p>The Council therefore considers that even with the proposed mitigation measures, the adverse impact to High House Farm, Little Moor Farm and Woodside Farm would be of medium magnitude.</p>

		<p>lines of planting and that, in the area between the onshore substations and National Grid substation and Friston Moor, the OLMP primarily seeks to reinstate the historic (19th century) field pattern to enhance the setting of High House Farm and Little Moor Farm. The end aim of the OLMP is stated to minimise visibility of the onshore substations and National Grid substation whilst retaining the heritage assets in an appropriate setting.</p> <ul style="list-style-type: none"> • The landscape at present is a largely open one, with far reaching views often possible. While the OLMP may seek to replace previous tree lined enclosures, it is not entirely clear how long such enclosures have been missing. Provide further justification for the proposed landscaping scheme in relation to the heritage assets, particularly in relation to Little Moor Farm and Woodside Farmhouse. 		<p>the asset and the developments. This is illustrated by photomontages from CH VP3 and CH VP4 (Figures 8 and 9). CH VP3 illustrates the effectiveness of the proposed woodland belt between Little Moor Farm and High House Farm in screening the onshore substations and National Grid substation from view in this part of the setting, retaining a more rural agricultural character. In contrast, CH VP4 illustrates how the substations would continue to be prominent features from this part of the setting.”</p> <p>With regards to Woodside Farmhouse, paragraph 161 of Appendix 24.7 (APP-519 & APP-520) states:</p> <p>“The OLMP proposes to reinstate and reinforce field boundaries with hedges in the immediate vicinity of Woodside Farm, reinstating its more enclosed agricultural setting. New woodland will be planted to the north, surrounding the onshore substations and National Grid substation on their south and west sides and creating a screen between the farm and the onshore substations and National Grid substation. It is considered that the</p>	
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				<p>loss of longer-range views to the north due to screening would not itself be an adverse impact as the slightly rising ground already restricts these views and the farm would be retained in an area of fields sufficient to provide an appropriate setting”.</p>	
<p>1.8.10</p>	<p>The Applicant</p>	<p>Mitigation – Church of St Mary It is acknowledged that proposals in the OLMP [APP-401-403] will not reduce the adverse impact caused by the loss of the views from the north and that, although new paths will be created to compensate for the loss of existing rights of way, none of these are likely to provide new views towards the church tower that might compensate for the loss of views from the north. a) Given this do you consider that the proposed mitigation provides any benefits to mitigating the key impact of the proposed developments upon the significance of the heritage asset? b) Were any alternative schemes considered, including the layout of buildings and compounds; creating new landforms or new landscape which would maintain views towards the Church</p>		<p>a) The proposals contained in the OLMP (APP-401-403) do not provide any benefits that would mitigate for the loss of the sequential views towards the church when walking south along the PRoW from Little Moor Farm, although it is noted that effects are avoided on views of the church from the southern-most and closest section of the PRoW, which is where the church is prominent. As described in the OLMP, mitigation planting seeks to be historically appropriate, through proposals to re-establish lost field boundaries and that seek to achieve layered screening through multiple lines of planting, with a mix of blocks, belts, tree lines and hedges, while maintaining the open setting / allowing the farming context of key receptors to be retained. b) From the outset, the site selection process (see Chapter 4 Site selection</p>	<p>a) The loss of the PRoW is considered to be a part of the overall detrimental impact on the significance of the church, as it would cause the destruction of a historic route to the church and the loss of an important view from the north. The OLMP would not mitigate the loss of views from the north or the intrusion into the relationship between the church and the dispersed settlement around Friston Moor. While the proposed woodland would partially screen the industrial development, it would in itself be a barrier which obstructs the church’s historically open, rural setting. As such, the Council does not consider that the OLMP would reduce the magnitude of adverse impact, which is considered to be medium.</p>

				<p>and Assessment of Alternatives (APP-052)) sought to avoid listed buildings and other heritage assets and ensure appropriate buffer distances through, for example, cable route refinement. Following the decision to locate the onshore substations at Friston, a process of micro-siting was undertaken (described in ES section 4.9.1.4) to refine the best location for the onshore substations and National Grid substation within the substation zone.</p> <p>Six alternative layouts to the preferred option were considered for the onshore substations and National Grid substation. These six alternatives are shown on Figures 4.8 to 4.13 of the ES (APP-088 to APP-093) (the preferred option is shown on Figure 4.14 of the ES (APP-094)). The six alternative layouts were presented to stakeholders at a site selection workshop with statutory consultees held in June 2018. The exercise was driven by the development considerations mapping used throughout preparation of the RAG Assessment for Onshore Substations Site Selection in the Sizewell Area (APP-</p>	
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				<p>443), survey data and desk-based data available.</p> <p>The primary driver for the co-location and micro-siting of the onshore substations and National Grid substation is landscape and visual impact. The proximity of Friston village to the south of the onshore substation location, 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. This maximises the potential of the surrounding woodland areas (Grove Wood, Old World Wood and Laurel Covert) to provide natural screening from nearby visual receptors and to utilise these woodland blocks for a sympathetic planting scheme.</p> <p>The footprint of the substations are required to extend west across the PRoW running through the onshore substation location. A PRoW to the north of the onshore substations will be created under the Permanent Stopping Up of PRoW Plan (APP-014) and Outline PRoW Strategy APP-581). The section of PRoW running south with views towards the church will remain and will be unimpeded.</p>	
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1.10	Landscape and Visual Impact				
1.10.2	Any IP and the Applicant	<p>A number of RRs raise concerns about the visual impact of development on Friston, with reference to the adequacy of mitigation.</p> <p>Is further mitigation required and what form might this take? Would additional planting of trees and hedgerows be an appropriate method to resolve this? What form might additional planting take?</p>		<p>The Applicants note concerns about the visual impact of development on Friston. The Applicants would highlight that these visual effects principally occur on receptors in a limited area on the northern edge of Friston (Church Road area) and the PRoW leading north out of the village, and to a lesser degree from the main area of the settlement developed slightly to the south from the church in the triangular shape of an infilled green. This main area of Friston is set back at greater distance from the onshore infrastructure than the dispersed northern edge of the village, separated by the village green (Viewpoint 6 – Figure 28.18a-e), areas of common land around St Mary’s Church, modern housing on Church Road / Hillcrest and Friston House Wood and the Saxmundham-Aldeburgh Road (B1121) (Figure 29.21a-e).</p> <p>The Applicants note the potential to provide further mitigation of the visual effects of the onshore substations in views from the northern edge of Friston, such as VP2 (Figure 29.14 (APP-405)). The Applicants considers that the form of this mitigation could include:</p>	<p>The Applicants suggest that the area of the village affected by visual impact is a relatively limited area on the north side of the village, but this is also the most historic sector of the Friston in terms of both built form and landscape, and therefore may be regarded as the particularly sensitive in terms of setting of Listed Buildings and landscape character. So, whilst it may be seen as a relatively limited area, it is nonetheless an important one that needs careful consideration in terms of selecting the most appropriate mitigation measures.</p> <p>One of the key issues when considering the extent to which any site can accommodate development is if mitigation planting and landscaping can be achieve the necessary visual mitigation whilst being appropriate for the character and qualities of the site and the wider landscape.</p> <p>As the Applicants have suggested block planting close the village would reduce the visual impact of</p>

			<ul style="list-style-type: none"> • Additional planting of field boundary trees and hedgerows; • Additional 'covert' woodland block/belt planting at closer proximity to VP2 / Friston; and/or • Subject to the availability of suitable material onsite, formation of soil formed earthworks to raise ground level contours in the area to the south of the onshore substations. <p>The Applicants considers that in order for the visual effects to be notably reduced, or potentially avoided, over the long-term, more substantial woodland planting at closer proximity to Friston, as represented in VP2 (Figure 29.14 (APP-405)), would be required. This could potentially take the form of 'covert' woodland blocks planted at strategic locations, or a more continuous woodland belt planting along the closest field boundary to the north of Church Road / the PRoW, visible in VP2 (Figure 29.14 (APP-405)) (rather than individual field boundary trees, as currently proposed). The former approach was proposed in the earlier drafts of the OLMP at Preliminary Environmental Information Report (PEIR) (PEIR Figure 29.11), however the</p>	<p>the schemes, however this would compound and accentuate the adverse impacts of the projects on the character of the landscape and the local sense of place. The Applicants face difficulties in balancing visual mitigation on one hand and the character of place on the other. A reduction in the size and scale of the substations through design refinement would provide a form of appropriate embedded mitigation.</p> <p>In the absence of such embedded mitigation, additional planting of trees and hedgerows are likely to be appropriate where this is consistent with the character of the landscape, particularly where these features have been lost to 19th and 20th century agricultural changes. However, such an approach may significantly expand the footprint of developments in order to secure such planting, as it may be incompatible with modern agricultural operations. It is considered that the provision of offsite planting could help to address this issue.</p>
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				<p>landscape proposals evolved following PEIR in consultation with stakeholders to move the planting further north, to avoid such close-up planting, on the basis of preference to maintain the open agricultural setting of the village and its historical setting. The Applicants consider that additional planting of this form would be an appropriate method to further mitigate the visual impact of the onshore substations in views from the northern edge of Friston, while accepting that this approach may have an impact in itself in changing the 'open' landscape character and the historic setting of the village. On balance, and based on consultation feedback, the Applicants preferred the retention and enhancement of character, but recognise others may have different view. The Applicants have proposed the acquisition of sufficient land to provide this additional planting and if this were to be preferred, it could be required through the approval of the LMP.</p> <p>The Applicants consider that there is also potential for further mitigation through the formation of soil formed earthworks (i.e. 'bundings') to raise ground level contours in certain</p>	<p>We note the suggested option of bunding planted with 'covert' tree planting but consider this to be a retrograde step in terms of impact on landscape character. We wait for updated OLMP General Arrangement.</p>
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				<p>areas to the immediate south of the onshore substations, potentially to coincide with woodland planted areas, in order to provide further visual screening and increase the height of tree screening above existing ground levels although note that (to avoid transportation of material to site) this is subject to the availability of subsoil and top soil from the substation construction. It is noted that an updated OLMP General Arrangement (APP-401) will be submitted to Examination at Deadline 3.</p>	
1.0.3	The Applicant	<p>Notwithstanding any responses to question 1.11.2, if it were considered that additional tree planting could have the potential to resolve concerns relating to visual impact and Friston, what would the impact of this be on:</p> <p>a) Land required to deliver and secure the long-term maintenance of such planting;</p> <p>b) Related impacts, particularly in relation to the setting of heritage assets.</p>		<p>The Applicants have the ability to refine the proposed planting within the Order limits subject to appropriate consideration of historic setting. An updated OLEMS (APP-584) which reflects any agreed changes to the landscaping layout will be submitted at Deadline 3.</p>	<p>ESC will review the updated OLMP General Arrangement after Deadline 3.</p>
1.10.4	The Applicant	<p>The ExA note that while a more interventionist approach to visual impact (e.g. bunding) may have more impact on landscape character than the</p>		<p>The potential for more substantial landscape earthwork alterations (i.e. bunding) was considered as part of the project design process and</p>	<p>Noted and we wait for updated OLMP General Arrangement. We remain concerned about potential adverse impacts of bunding on</p>

		<p>proposed developments they may achieve more in terms of reducing visual effects in the vicinity of the proposed substations.</p>		<p>discussed with the Councils. The potential for substantial landscape screening bunds was considered as potential further mitigation during the LVIA and modelled by the project civil engineers. The volume of sub-soil required for substantial screening bunds was found to be considerably greater than that generated by the formation of the substation platform, involving major earthworks operations, transportation of material from the full project area to the substation location and would require notable amounts of plant and time to construct. Major screening earthworks were discounted on this basis but were also considered likely to result in potentially intrusive effects on local landscape character and topography.</p> <p>A landscape bunding proposal with lower levels of landform alteration was considered, utilising the amount of surplus subsoil from cable route and substation works to the west of Aldeburgh Road. These bunding proposals potentially provided for a landscape bund to the south of the East Anglia ONE North substation and Sustainable Drainage Scheme (SuDS) basin, and/or to the south of</p>	<p>landscape character, and its unsuitability for planting because of artificially dry planting conditions.</p>
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					<p>Fristonmoor Farm / High House Farm to the north. This potentially provided an area for surplus subsoil to be used, with potential to raise the ground levels and screening potential provided for planting areas to the south of East Anglia ONE North substation. It did not, however, provide a full solution for the amount of excess topsoil generated from the project, due to the amount of topsoil generated from formation of the SuDS pond and onshore substations, together with the formation of the bunds themselves (as the topsoil needs to be stripped before forming the subsoil bund if they are to be planted with woodland). Further visual mitigation could take the form of appropriately designed landscape bunding to the south of the onshore substations.</p> <p>Alternatively, there is potential for the excess topsoil to be stockpiled in 3m high bunds (but not planted) beside the onshore substations for the lifetime of the project (and then used for reinstatement following decommissioning of the substations). This could also provide further visual screening; however such features have the potential to</p>	
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				<p>be incongruous in the local landscape and may have limiting screening potential in relation to the taller substation infrastructure. It was considered that the worst case scenario in terms of the EIA was the assumption of no landscaped earthworks / bunding and to have to transport excess materials offsite, and as such these assumptions were adopted in the LVIA. An updated OLEMS (APP-584) will be submitted to Examination at Deadline 3 after the Applicants have had the full opportunity to consider all of the Written Representations.</p>	
<p>1.10.6</p>	<p>The Applicant</p>	<p>It is noted [APP-077] that up to 0.9ha of woodland north of Fitches Lane will be felled as part of the onshore cable construction. It is the ExA's understanding that the Applicant has committed to reducing the onshore cable route to 16.1m at this point in combination for both proposed projects, to retain as many trees as possible at this location. a) Confirm that this understanding is correct or provide clarification if not. It is not clear to the ExA if the reinstatement for this section of the proposed works would be new planted woodland (reinstatement) or heathland established over the onshore cables and</p>		<p>a) The Applicants have committed to reducing the onshore cable route to 16.1m per project, and where both projects are constructed in parallel to 27.1m in total. This mitigation is to retain as many trees as possible at this location. b) Proposed mitigation for the removed area of woodland north of Fitches Lane is set out at para 175 of Chapter 29 LVIA (APP-077): "This section of cable route will be reinstated through the establishment of heathland over the onshore cables and further woodland planting along the outer edges of the onshore cable route,</p>	<p>All noted, but in point (e) we would strongly contend that woodland cannot be established in 5 years. Trees can achieve initial establishment in that time, but that does not make it woodland. Woodland is a diverse and complex habitat that takes many decades to establish.</p>

		<p>woodland planting along the outer edges</p> <p>b) Confirm the details for the proposed mitigation for the removed area of woodlands north of Fitches Lane</p> <p>c) If mitigation would be proposed heathland, assess the landscape effects, including assessing the likely visibility to receptors, of providing a 16.1m strip (dependent on answer to part a)) of fairly open heathland in the middle of an existing woodland?</p> <p>d) Would woodland planting along outer edges be a realistic proposition given the future potential impact of the roots of the proposed trees? ES Appendix 29.3 [APP-567], section 29.3.1 states that the magnitude of change to the perceived landscape character in the vicinity of this woodland, at 5 years post construction, once the replanted areas have established, is assessed as being low and the impact is not considered significant.</p> <p>e) Explain why 5 years is considered enough time for mitigation measures to establish themselves and for the impact to change from significant (during the first year) to not significant after 5 years?</p>		<p>outside a minimum offset distance from the onshore cables". In addition, the ecological mitigation area at Works No. 24 is provided within the Applications to accommodate a replacement woodland block (in addition to other ecological mitigation if identified as being required pre-construction).</p> <p>c) Heathland re-creation could be carried out by stripping the surface soil horizon to remove nutrients; acidifying soil and introducing seed of heather and other key heathland species in the form of cut brash. This would emphasise a more natural feel along the cable route and would provide more effective mitigation than grassland / scrub. Project alone effects of the East Anglia TWO project are assessed in para 240 (construction) and 252-253 of APP-077 (operation) and of the East Anglia ONE North project in para 238 (construction) and 250-251 of APP-077 (operation). Cumulative landscape and visual effects of the construction of the onshore infrastructure at land north of Fitches Lane are assessed in Table 29.13 of APP-077 and operational</p>	
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		<p>f) Bearing in mind question c), if the proposal is to establish a strip of heathland along the onshore cable route, do you consider such mitigation measures to be sufficient to achieve such a reduction in impact?</p>			<p>effects are assessed at Table 29.14 and paragraphs 213 to 216. d) Woodland planting is proposed outside a minimum offset distance from the onshore cable route (given the need to avoid trees rooting into ground above or close to the onshore cables). Planting constraints with regards to the onshore cable route are shown in the OLEMS (Plate 3.4), which illustrates that most deciduous trees can be planted from a distance of 6m from the cables and shrubs between 3m to 6m. Given the indicative cable trenching arrangement shown in Plate 6.19 of Chapter 6 (APP-054), planting of deciduous trees would likely need to be kept to the outer edges of the 16.1m cable corridor and potentially to one side (nearest the receptors on Fitches Lane), with a graded edge to smaller shrubs and shallower rooting species nearer to the cable route. Hedgerows can be planted across the cable route, which could form effective screening for pedestrians / road users along Aldringham Road. e) 5 years was considered to be approximately when the combination of heathland vegetation along the onshore cable route and re-instated woodland along the</p>	
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					<p>edges of the onshore cable route would have become established and combine to provide re-established naturalised ground-cover along the cable route and therefore mitigate the significant effects identified at construction.</p> <p>f) It is considered that such mitigation measures (combined with further woodland planting along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables and the retention of an undisturbed buffer between Fitches Lane and Works No. 20, are sufficient to achieve a reduction in impact on landscape character and visual amenity, although it is noted that this form of mitigation will achieve a reduction in impacts increasingly with duration as the trees grow and provide denser cover along the outer edges of the onshore cable route. The landscape character in this area is mainly experienced from the PRoW along Fitches Lane, where existing woodland has been retained (Figure 6.7e (APP-102)) between the receptor and the heathland strip, which together with the further planting proposed along the edge of the existing woodland, is considered</p>	
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				<p>to provide a sufficient reduction in impact. The Applicants note the potential for hedgerow planting across the cable route, which could form effective screening for pedestrians / road users along Aldringham Road.</p>	
<p>1.10.8</p>	<p>The Applicant</p>	<p>ES Chapter 29, paragraph 41 [APP-077] and the OLEMS, paragraph 81 [APP-584] contains the assumptions used for vegetation growth rates. These predictions have been used in the production of the photomontages, illustrating the effectiveness of the planting at year 15. It is stated in the OLEMS (paragraph 84) that heights of taller trees at 15 years post planting are based on an assumption of planting 60cm cell grown plants, with an average annual growth rate of 30cm per year for the first 5 years and 50cm per year for the next 10 years. These assumptions are based on guidance produced by IEMA in 2019. As such the growth rates reported in the OLEMS and the LVIA chapters are a "rule of thumb" to establish growth rate without considering local conditions. ES Chapter 29, paragraph 68 states that the magnitude of change (for both landscape and visual impacts) is assessed at 15 years post planting</p>		<p>The Applicants consider that the growth rates outlined are appropriate and achievable. With regards to mitigation planting, as set out in section 3.5.4 of the OLEMS (APP-584)), assumed growth rates are based on relevant guidance from the Institute of Environmental Management (IEMA), research of relevant published literature and plant nurseries, and are comparable to precedents established by other Nationally Significant Infrastructure Projects (NSIPs). The Applicants held ETG meetings in which growth rates were discussed with the local planning authority (Table 3.1 of the OLEMS (APP-584)). Section 3.5.4 of the OLEMS (APP-584) provides information on the assumed growth rates of trees utilised for landscaping. However, the Applicants are further investigating how appropriate and achievable the applied growth rates</p>	<p>There has been a lot of discussion regarding growth rates throughout the pre-application period. To be clear about the Council's position on this; whilst we accept that the described growth rates may be achievable, given recent weather patterns in East Suffolk, there is every possibility that they will not. Even this year, there was barely a drop of rain that fell between early March and mid-June, and as a result, despite a wet post-Christmas period up to March, the arable harvest was down 30% in yield. Whilst arable cropping operates on an annual cycle, financial losses made one year can potentially be recovered in subsequent better years. With tree planting, restricted early years growth usually has a knock on effect and growth potential can take a number of years to recover,</p>

		<p>which results in the assessment of residual impact significance. This is based on the assumption that the planting will be successful at the growth rates provided at paragraphs 81 – 84 of the OLEMS.</p> <p>It is therefore unclear whether this can be considered a worst case scenario in term of assumed growth rates for the purpose of the EIA.</p> <p>Various representations, including from the County Council, ESC and Friston PC also consider that the assumed growth rates are not reasonably justified in prevailing local conditions given local soil and climatic conditions. The ExA note the applicants’ comments on the RRs [AS-036].</p> <p>a) Explain the confidence it has in the growth rates for proposed planting assumed for the purposes of the assessment and in the photomontages provided?</p> <p>b) To what extent have these assumptions taken into account the specific growing conditions, including local conditions of soil, drainage, and climate, for relevant species at any particular location?</p> <p>c) What effect would a more cautious approach to growth rates have on the submitted montages?</p>		<p>are and remains in consultation with the Councils on this matter through the SoCG process. Further information, including a selection of revised photomontages, will be submitted at Deadline 3.</p>	<p>and sometimes not at all. We accept that a thoroughly well considered planting specification and well applied and adaptive maintenance and management regime will all help, but there is still a fair chance that weather patterns adverse to successful tree establishment will be the key influencing factor. Should there also be other factors such as ill-timed planting, and poor specification adherence, then the problem will be compounded. The described growth rates are not considered to comprise a worst case scenario. The evidence base used by the Applicants to justify their claims seems to be based in UK national averages and not specific to eastern East Anglia which presents a unique and demanding set of circumstances.</p>
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		<p>The use of professional judgement should be clearly stated and explained.</p>				
<p>1.10.9</p>	<p>The Applicant</p>	<p>Various references are made around pre-construction planting in the LVIA [APP-077] and OLEMS [APP-584], including but not limited to paragraphs 70, 85 and 86 of the OLEMS Explain how such planting would be secured by the DCO and how it would be approved.</p>			<p>The Applicants propose that the detail of any 'early planting' to be undertaken is set out in an updated OLEMS (APP-584). The Applicants are in discussion with the Councils regarding the nature of any early planting to be undertaken. Early planting undertaken after commencement of construction will be defined within a Landscape Management Plan (Requirement 14 of the draft DCO (APP-023) and submitted to the relevant planning authority for approval. This early planting will accord with the OLEMS (APP-584). For early planting undertaken prior to construction and therefore prior to approval of the Landscape Management Plan (Requirement 14 of the draft DCO (APP-023)), the Applicants will consult with the relevant planning authority on the location of the early planting and the species to be planted prior to the early planting commencing, and in due course will ensure that this early planting is incorporated within the Landscape Management Plan submitted to the relevant planning authority for approval. This early</p>	<p>ESC is engaging with the Applicants on how early planting can be secured.</p>

				planting will accord with the OLEMS (APP-584).	
1.10.10	The Applicant	<p>ES Chapter 29, paragraph 52 [APP-077] (Section 29.3.4 Monitoring) states that where monitoring is proposed in regard to maintenance of any proposed planting this is described in the OLEMS [APP-584]. However, the OLEMS paragraph 311 (section 9) states that the requirement for, and final appropriate design and scope, of monitoring will be agreed with the LPA and included within the relevant management plan(s), submitted for approval to discharge relevant DCO requirements, prior to construction works commencing. The OLEMS does not provide any indication of the management provisions for all tree and shrubs, should planting fail.</p> <p>a) Explain what measures are in place to identify and address failure or below assumed growth rate performance within the proposed planting design? If no such measures exist is the applicant content that the assumptions applied in the ES support this potential outcome</p> <p>b) What are the management provisions for all tree and shrub planting types from year 5 onwards, and the proposed end date for management activities? Explain how</p>		<p>d) This matter remains under discussion with the local planning authorities. The OLEMS (APP-584) will be updated to reflect the measures being discussed currently by the Applicants and the local planning authorities. This will be submitted to the Examinations at Deadline 3.</p> <p>e) The Applicants will have ongoing management responsibilities for the planting (including trees and hedgerows) around the onshore substations and National Grid substation; and within Works No. 24 (being replacement tree belt). These responsibilities will focus on safety management and general good practice (such as thinning) for such planting. The OLEMS (APP-584) will be updated to provide further information on this matter and will be submitted to the Examinations at Deadline 3. Hedgerows within the onshore cable route will revert to landowner management at the end of the management period.</p>	ESC will review the updated OLMP General Arrangement after Deadline 3.

		any such provisions would be secured in the DCO, or suggest amendments to ensure that they are.			
1.10.11	The Applicant	What additional mitigation measures have been considered (other than as contained within the OLEMS) and if others were considered, why have none been proposed?		<p>As described in the Applicants' response to ExA Question 1.10.2, additional measures were considered to mitigate the visual effects of the onshore substations in views from the northern edge of Friston. This included consideration of woodland block / belt planting at closer proximity to Friston and the formation of soil formed earthworks to raise ground level contours in the area to the south of the onshore substations.</p> <p>Woodland block / belt planting at closer proximity to Friston (which was proposed at PEIR) was not ultimately proposed in the submitted OLEMS (APP-584) in preference of maintaining the open agricultural setting of the village and its historical setting, which was a key aspect of the stakeholder feedback provided by the OLMP technical working group and LVIA ETG during consultation.</p> <p>Substantial landscape screening bunds were considered but discounted on the basis of the volume of material required</p>	Noted. ESC will review the updated OLMP General Arrangement after Deadline 3.

				<p>involving major earthworks operations and the potentially intrusive effects of bunding on local landscape character and topography. As noted in the Applicants' response to ExA Questions 1.10.2 and 1.10.4, additional planting in the form of 'covert' woodland blocks / belts closer to Friston could be considered as appropriate further mitigation, along with the potential for appropriately designed landscape bunding to the south of the onshore substations.</p> <p>The use of some faster growing but non-native tree species in the proposed planting mixes was also considered (as proposed at PEIR), with the potential to provide some faster tree growth and earlier screening in key areas, but was discounted in consultation with the OLMP technical working group, in favour of planting exclusively with native woodland species for biodiversity benefits. The Applicants are willing to discuss this further with the Councils.</p> <p>The use of larger sized standard or feathered tree stock selection for planting within woodland areas was considered (potentially in smaller numbers in key areas), as a way of</p>	
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					<p>creating more expedient visual screening. The current OLEMS (APP-584) proposals favour planting of younger, smaller trees (whips) which increase the chance of initial success of plant establishment, subsequent growth and overall success of the OLMP planting scheme.</p> <p>Mitigation planting was considered in a number of other areas, however the planting proposals needed to take account of the constraints provided by existing and proposed underground and overhead line connections. Larger scale woodland mitigation planting to the north of the National Grid substation was considered, for example, but discounted due to constraints of the existing and proposed overhead line infrastructure.</p> <p>Re-instatement of historic field boundaries through hedgerow planting is proposed as part of the OLMP. Further re-instatement of more historic hedgerow field boundaries in line with the smaller sized historic field pattern was also considered immediately to the north / north-east of the National Grid substation but discounted on the basis of agricultural landowner requirements for farming practices.</p>	
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				<p>It is noted that an updated OLMP General Arrangement (APP-401) will be submitted to Examination at Deadline 3.</p>	
<p>1.10.12</p>	<p>The Applicant</p>	<p>ES LVIA Chapter 29, paragraph 180 [APP-077] states that while the Ancient Claylands LCT is sensitive to changes from large scale development, the visual containment of the LCT by extensive woodland blocks, tree belts and hedges reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. The Conclusions of the chapter (paragraph 266) reaffirm that the proposed onshore substations and National Grid infrastructure is located within a landscape with extensive mature woodland of large scale. The OLEMS [APP-584] states that the Outline Landscape Management Plan (OLMP) would seek to be historically appropriate. The ExA note from submitted plans the woodland in the vicinity of the proposals largely consists of Laurel Covert, Grove Wood, and trees to the east of Friston House.</p> <p>a) Do you agree with the description of the existing woodland? b) If so, do you maintain that such woodland amounts to 'extensive' woodlands blocks?</p>		<p>a) The Applicants would largely agree with the description of the existing woodland but would expand this description as follows. The woodland in the vicinity of the proposals largely consists of Grove Wood and Old World Wood (an ancient woodland), Laurel Covert (19th century plantation) and Friston House Wood, but also includes woodland at Fristonmoor Covert and a smaller unnamed wooded 'covert' on western side of the PRoW trackway. Other 'covert' woodlands are located beyond this immediate vicinity (such as Long Covert and New Covert).</p> <p>b) The Applicants consider that ancient and plantation woodland is a significant feature within the landscape around the onshore substations, owing to the effect of many blocks of woodland scattered throughout the area. The combination of the above named woodlands (Grove Wood, Old World Wood, Laurel Covert, Friston House Wood, Fristonmoor Covert and the</p>	<p>In respect of points (c) and (d), whilst there is a long history of small copses and woodlands throughout the LCT, the danger of adding too many new ones is that they can visually coalesce and give a more forested effect which could be regarded as contrary to prevailing landscape character. Any such proposals would need careful consideration if they were not to have an adverse impact on landscape character in their own right. They should also not contribute to the erosion of the small scale field pattern to the north of the village. We await further details.</p>

		<p>c) What would be the adverse effects of creating large areas of new 'Covert' woods to shield the proposals in terms of landscape character? Has any assessment taken place of any such effects?</p> <p>d) Would such new Covert woods be historically appropriate given the stated local characteristic of a network of small-scale fields to the north of Friston, with strong hedgerow field boundaries and scattered mature deciduous field boundary trees? If so, why, or if not, why not?</p>		<p>smaller unnamed wooded 'covert') cover a combined area close to 210,000m² (21ha) and contributed most to the description of the existing woodland as 'extensive' in the local context. Due to the combination of these woodlands, the landscape does feel extensively and well wooded, and this is reinforced by the network of tall hedges, hedgerow trees and field boundary vegetation which are often present and form a significant component of the tree cover. These characteristics are all recognised in the Landscape Character Type (LCT) descriptions for the Ancient Estate Claylands LCT. The Applicants note that following the overhead line east to west from the edge of the AONB, it is the largest area of woodland near to the overhead line with potential for screening of the onshore infrastructure. In reviewing the OLMP General Arrangement (APP-401) for submission at Deadline 3, the Applicants will consider the opportunity for additional woodland planting whilst respecting the historic setting of the listed building in the area.</p> <p>c) The Applicants would note the site benefits from existing screening</p>	
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				<p>provided by 'covert' woods and Grove Wood. This is evident in the photomontages for VP7 (Figure 29.19b (APP-410)), VP11 (Figure 29.23c (APP-414)) and VP12 (Figure 29.24b (APP-415)). The Applicants also note inclusion of characteristic 'covert' woodland blocks in the OLEMS (APP-584) to the north near Moor Farm and Little Moor Farm. Previous assessments of woodland blocks / belts in closer proximity to Friston indicated that further visual mitigation could be provided by creating areas of new 'covert' woods closer to Friston to shield the proposals, however consultations with the OLMP technical group indicated that in the area north of Friston, the reinstatement of historic field boundaries, fill gaps and introducing field boundary trees to provide layered screening was preferable to large scale woodland planting close to the village, in order to allow the agricultural setting of Friston to be retained. In reviewing the OLMP General Arrangement (APP-401) for submission at Deadline 3, the Applicants will consider the opportunity for additional 'covert' woods to shield the proposals.</p>	
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					<p>d) Given the network of small-scale pre 18th century field enclosures to the immediate north of Friston, their greater historic relevance and historic absence of large woodlands in these fields, the Applicants considered that the introduction of new woodland blocks would be historically more appropriate further to the north, nearer to the onshore substations and Grove Wood, as proposed in the OLEMS (APP-584), where the character has already been altered as a result of agricultural / field boundary changes in the post-war period. The position of Friston House Wood is however noted, which is on the immediate edge of the village and provides visual containment to the visual amenity of dwellings in this Church Road / Hillcrest area. As noted in response to previous questions, the Applicants consider that additional planting in the form of 'covert' woods closer to Friston, would be an appropriate method to further mitigate the visual impact of the onshore substations in views from the northern edge of Friston, while accepting that this approach may have an impact in itself in changing the 'open' landscape character. In</p>	
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				<p>reviewing the OLMP General Arrangement (APP-401) for submission at Deadline 3, the Applicants will consider the opportunity for additional covert woodland planting whilst respecting the historic setting of the listed building in the area.</p>	
<p>1.10.16</p>	<p>The Applicant</p>	<p>The conclusions of the ES Chapter 29 [APP-077 note that it is considered that there is scope for the onshore infrastructure to be accommodated in the landscape, over the long-term, with the delivery of the landscape mitigation plan.</p> <p>a) In this respect define the terms 'accommodated' and 'long term'.</p> <p>b) Is such accommodation sufficient to adequately mitigate the adverse effects on the quality of landscape and the visual impact of the new infrastructure? How can this mitigation be secured, monitored, and assessed?</p>		<p>c) Long-term is defined in the Appendix 29.2 (APP-566) as more than 10 years. The term 'accommodated' used in the conclusions of ES Chapter 29 (APP-077) refers to the ability of the overall character of the landscape to accommodate the onshore infrastructure without undue consequences, expressed as a professional judgement, informed by the likely interactions between the sensitivity of the resource – landscape and visual – and the changes arising from the attributes of the development, including its embedded mitigation.</p> <p>d) 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,</p>	<p>This is very dependent on the successful and timely delivery of the planting mitigation measures.</p>

				<p>including the wider 'overall' character of the 'host' landscape types: the Ancient Estate Claylands and Estate Sandlands LCTs, and the Suffolk Coast and Heaths AONB. Despite the proposed mitigation and degree of landscape integration achieved over time, the LVIA does find that the onshore substations and National Grid Infrastructure will have significant, long-term and permanent effects on the landscape character of localised areas to the north of Friston, within approximately 1km around the onshore substations. The Applicants consider that these significant effects on local landscape character 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).</p> <p>Visual effects have been possible to mitigate over the long-term through the OLEMS (APP-584) planting proposals addressing specific</p>	
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				<p>receptors, with residual significant, long-term and permanent visual effects assessed as occurring only on views experienced by people walking on the PRow network to the north of Friston and residents of the edges of the village of Friston and its outlying rural dwellings / farmsteads. The potential for further visual impact mitigation addressing these receptors has been described in responses to questions 1.10.2 and 1.10.12.</p> <p>Professional judgements made in the conclusions of ES Chapter 29 (APP-077) with regards potential to accommodate the substations are made in the context of virtually all Nationally Significant Infrastructure Projects, particularly those of the size proposed for the onshore infrastructure of the project, will have significant effects on their local landscape character and with regard to the minimising of harm to the landscape proposed through appropriate mitigation in the OLEMS (APP-584). Mitigation that improves accommodation described in the conclusions of ES Chapter 29 (APP-077) paragraph 268, includes the good / careful design of the project, within a landscape that is partially</p>	
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				<p>enclosed by trees and woodlands (which offer more capacity to accommodate development without affecting the wider landscape character), 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. There are also existing visual detractors, in the form of the double row of high-voltage overhead transmission, which influence whether development is likely to be accommodated into its surroundings.</p> <p>Mitigation would be secured under the LMP which will be produced and implemented in accordance with Requirements 14 and 15 of the draft DCO (AAP-023).</p>	
1.10.17	The Applicant	<p>ES Chapter 29 [APP-077] Table 29.1 states that “Lighting effects associated with the construction works and onshore infrastructure have been taken into account within the assessment methodology. More detail is provided in Appendix 29.2 Operational impacts (including lighting) are considered in section 29.6.2”</p>		<p>Regarding construction lighting, the final Code of Construction Practice (CoCP) will include an artificial light emissions plan to be approved by the relevant local authority before commencement. Details of the location, height, design and luminance of all floodlighting to be used during the construction of the Projects, together with measures to</p>	<p>We await final details but will be looking for minimal adverse lighting effects on the rural landscape.</p>

		<p>However, it is not clear to the ExA where more detail is provided in either Appendix 29.2 or section 29.6.2. While noting information provided in the submitted Design and Access Statements [APP-580], clarify the proposed day and night time lighting required of the onshore infrastructure, how this would be controlled both physically and through the DCO, and if any is necessary, the visual effects of such lighting on key receptors.</p>		<p>limit obtrusive glare to nearby residential properties, will be set out in the final CoCP.</p> <p>Site lighting will be positioned and directed to minimise nuisance to footpath users and residents, to minimise distractions to passing drivers on adjoining public highways and to minimise sky glow, so far as reasonably practicable. Lighting spillage will also avoid or minimise impacts on ecological receptors, including nocturnal species.</p> <p>Construction phase lighting will be limited to permitted working hours in low light conditions, with lower-level security lighting outside of these times.</p> <p>It is proposed that specific operation phase artificial lighting requirements (Works Nos. 30 and 41) be determined post-consent. Full details of artificial light emissions (e.g. hours of lighting and measures to minimise lighting pollution) will be included in an artificial lighting management plan to be submitted to and approved by the relevant local planning authority before operation commences. This is secured in Requirement 25 of the draft DCO (APP-023).</p>	
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				<p>Section 6.7.8.14 of Chapter 6 Project Description (APP-054) provides information on the operational lighting requirements for the Projects.</p> <p>Based on the mitigation described in Table 29.3 of Chapter 29 of the ES (APP-077), it is considered that any potentially significant visual effects relating to lighting at the onshore substations will have been mitigated through design (i.e. the onshore substations have been designed so that they require no permanent lighting at night-time, with passive lighting (passive infra-red) being used).</p>	
1.10.19	The Applicant	Submitted plans show proposed sustainable drainage system basins. Assess any effect of the such basins on the local landscape character in landscape and visual terms, where relevant.		<p>Indicative onshore substations and National Grid SuDS detention basin size and location is illustrated in the OLEMS (APP-584) (Figure 3 and 5) to the west of the National Grid substation and south-west of the onshore substations and National grid Infrastructure. The SuDS is designed with detention basins and/or retention ponds, which will hold surface water runoff from the onshore substations during rainfall and allow a sufficient attenuation to greenfield runoff rates to the Friston watercourse. The full specification</p>	<p>It is understood that Suffolk County Council as the Lead Local Flood Authority have further comment to make on drainage issues and so this issue needs further technical input before comment can be made on likely landscape impacts arising.</p>

					<p>for the SuDS would be addressed as part of the detailed design post-consent, however the intention is for the SuDS basins to be designed in line with best practice (The SuDS Manual, CIRIA, 2015).</p> <p>Detention basins would consist of vegetated landscape depressions that may normally be dry except during and immediately after storm events, when the basin fills to provide storage runoff and flow attenuation, or that have a small permanent retention pond and marshy areas at the outlet. The form and aesthetic appearance will be designed in detail, however the intention is that the SuDS basins would have edges with curves and undulations to produce natural-looking features and that the basins would be vegetated with appropriate wetland grasses and wet woodland species, as indicated in the OLMP (Figure 3 – G3/W4 areas). In combination with the surrounding species rich-grassland (G2) and woodland areas (W1), the SuDS basins are intended to contribute to a more natural landscape character in the local area to the west of the substations, as a contrast to the more complex form of the</p>	
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				<p>substations. The visual impact of the SuDS basins is relatively localised, since they are only likely to be viewed in close proximity, most likely from the PRoW passing to the west and slightly more elevated areas of this PRoW to the north towards Fristonmoor.</p>	
<p>1.10.22</p>		<p>Natural England [RR-059, Appendix D] raise issues in respect of highlighting the need for considering and potentially committing to simultaneous construction of the onshore cabling for both projects should they both be approved, as a form of mitigation to limit construction phase landscape and visual impacts to the short term. They note that in their view the importance of the AONB (a nationally designated landscape with the highest level of planning policy protection) justifies the most effective mitigation being applied i.e. both onshore cabling stages to be completed together and the landscape fully restored as soon as possible.</p> <p>The ExA note the responses of the Applicant to this point of view in their response to the RR [AS-036] that the projects are being developed by two separate companies, are two separate</p>		<p>a) The Applicants are currently investigating the possibility of installing ducts for both projects in parallel should the Projects be built sequentially. An update will be provided at Deadline 2.</p>	<p>Any provisions that minimise disturbance to the landscape will be welcomed.</p>

		<p>projects and will have two separate Development Consent Order consents.</p> <p>a) Can any assurances be provided of the likelihood (or not) of financing being secured for both projects in parallel and works being carried out concurrently?</p> <p>To Natural England: If the projects are not able to be carried out together, provide further views and comments on the effects of the proposals on the AoNB</p>				
1.10.26	The Applicant	<p>Pilgrims Paths</p> <p>Various IPs [including but not limited to RR-445, RR-356, RR-068]] to the effect of the proposal on “pilgrims paths”. The existing footpath running north from Friston towards Little Moor Farm which will be removed as part of the proposals is stated to be one such path.</p> <ul style="list-style-type: none"> Respond to this view. Has any assessment been taken of any additional value which a footpath may accrue by virtue of historical associations? 			<p>The Applicants have given further consideration to the value of this path. An Onshore Archaeology and Cultural Heritage Clarification Note (ExA.AS-10.D1.V1) that includes additional baseline information and further assessment has been submitted to the Examination at Deadline 1.</p>	<p>The loss of this historic route is noted and regarded as a harm arising from the location of the substations that cannot be mitigated in terms of historic significance. ESC has provided comments separately in relation to the Onshore Archaeology and Cultural Heritage Clarification Note at Deadline 2.</p>
1.11	Marine and Coastal Physical Processes					
1.11.1	Applicants	<p>UK Climate projections and coastal erosion</p> <p>The ExA notes that Appendix 4.6 of the ES [APP-447] was produced in April 2018. The UK Climate Projections 2018</p>			<p>The Applicants’ assessment in Appendix 4.6 Coastal processes and Landfall Site Selection (APP-447) adopted conservative factors for future coastal change, based upon</p>	<p>The coastal change risk allowance proposed by the Applicants is agreed as conservative. The 2018 UKCP data does not significantly reduce the risk margin.</p>

		<p>(UCKP18) was published on 26 November 2018</p> <ul style="list-style-type: none"> • Do the projections have any implications for the conclusions drawn in Appendix 4.6 or ES Chapter 4 [APP-052] or on the risk of the development being affected by coastal change? 		<p>guidance that was available at the time.</p> <p>The Applicants have undertaken a comparison of the rates of sea level rise used in the assessment against the UKCP18 data and considers the assessment to be robust.</p> <p>Whilst the values used are slightly lower than UKCP18 over shorter timescales (approximately 50 years), they are higher than UKCP18 values for the longer term (50 years+) for RCP2.6 (50th and 95th percentile values), RCP4.5 (50th and 95th percentile values) and RCP8.5 (50th percentile value)1.</p> <p>The values used are slightly lower than the RCP8.5 95th percentile value over the longer term but this is considered an unlikely high-end outcome.</p>	
1.11.2	Applicants	<p>Mitigation and remediation at landfall</p> <p>a) In the event that cables were to become exposed due to coastal erosion what mitigation or remediation measures may be required? How would this be monitored?</p> <p>Paragraph 5.510 of (EN-1) seeks to ensure that proposed developments will be resilient to coastal erosion and deposition, taking account of climate change, during the project’s operational life and any decommissioning period.</p>		<p>a) Future trends in coastal erosion has been assessed in Appendix 4.6 Coastal processes and Landfall Site Selection (APP-447).</p> <p>The study quantified appropriate set back distances from the cliff line depending on where a future landfall location is chosen. This was proposed on a conservative precautionary approach. The Applicants have committed to setting back the landfall transition</p>	<p>The set-back position of the landfall transition bays to the potential 100-year erosion prediction line is a helpful approach to risk management. However equally relevant is the level at which the cables are installed when compared with potential future shoreline erosion profiles. There is new information on this in the Outline Landfall Construction Method Statement</p>

		<p>b) How has the resilience to costal erosion during the decommissioning period been addressed?</p>		<p>bays to the potential 100-year erosion prediction line to ensure the integrity of the cliff is not compromised and to allow for natural coastal erosion (section 6.6.2 of Chapter 6 Project Description (APP-054)). It is therefore the Applicants' view that the cables will not become exposed from coastal erosion.</p> <p>A commitment has also been made to install the export cable at the landfall using trenchless techniques, thus minimising disturbance to the cliffs and SSSI. Monitoring of the landfall will be undertaken as set out in section 3 of the Outline Landfall Construction Method Statement (ExA.AS-2.D1.V1), submitted at Deadline 1.</p> <p>b) The Applicant has committed to setting back the landfall transition bays to the potential 100-year erosion prediction line to allow for coastal erosion over the entire duration of the project including decommissioning (section 6.6.2 of Chapter 6 Project Description (APP-054)). This has been informed by the technical study provided in Appendix 4.6 (APP-447).</p>	<p>(LCMS) submitted at Deadline 1 which indicates that the Applicants are aware of the risk and intend to install the cables at significant depth. This is an issue that ESC will follow up on when the final design is submitted for approval.</p> <p>The Applicants have not answered the question 'what you will do if the cables are exposed?'</p>
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<p>1.11.3</p>	<p>Applicants</p>	<p>HDD at landfall Use of the horizontal directional drill (HDD) method to bring the offshore cables onshore is understood to reduce potential significant adverse impacts on coralline crag and the Leiston to Aldeburgh SSSI a) Please identify, with reference to the Shoreline Management Plan (SMP) and the assessments in Appendix 4.6 where the parameters have been calculated and set for the length, depth and angles of drilling that are compatible with the assessments b) Does the Applicant intend on submitting a draft landfall construction method statement into the Examination and if so when?</p>	<p>The Applicants intend to use a trenchless technique solution at the landfall. HDD is an example of a trenchless technique and is the technique that formed the basis of the impact assessment. The Applicants refer to sections 4 and 5 of the Outline Landfall Construction Method Statement (ExA.AS-2.D1.V1), submitted at Deadline 1 which provide outline information regarding the HDD design and methodology respectively. Detailed parameters such as length, depth and angles of the drilling will be subject to detailed design and will be provided in the final Landfall Construction Method Statement which is secured under Requirement 13 of the draft DCO (APP-023). The infrastructure associated with the HDD at landfall has been appropriately sited based on the Applicants' identification of the potential 100-year erosion prediction line which allows for coastal erosion over the entire duration of the project (Appendix 4.6 (APP-447)). The 100-year erosion prediction line is based on the current management measures of the SMP and additional analysis of the characteristics and behaviour of</p>	<p>The coastal change data in SMP 7 is 10+ years old. The new reports commissioned by the Applicants are more relevant to erosion risk assessments. Use of HDD is preferred by ESC to alternative methods of installation. Final proposals for length, depth and angles of HDD drilling will be provided for approval by ESC after further Site Investigation works as part of the final design submitted with the final LCMS.</p>
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				<p>the shoreline as presented in section 2 of Appendix 4.6.(APP-447). The transition bays would be installed with a minimum setback distance of 85m from the cliff top to ensure the integrity of the cliff is not compromised and to allow for natural coastal erosion. The boundary of associated Work No. 8 reflects this set back distance.</p> <p>b) The Applicants have provided an Outline Landfall Construction Method Statement (ExA.AS-2.D1.V1), at Deadline 1.</p>	
<p>1.11.4</p>	<p>Applicants</p>	<p>Geological integrity and stability at landfall What site investigations have taken place to ensure that the geological integrity and stability the shoreline could withstand vibrations or fracturing as a result of HDD or during operation and what are the results?</p>		<p>The Applicants note the concerns and sensitivities, particularly expressed by local residents, in relation to the perceived potential to de-stabilise the existing cliffs. The siting of the landfall has been carefully considered. Review of published and publicly available geological and geotechnical information has been undertaken as part of a desk-based assessment and to inform the development of the outline designs presented in the Applications.</p> <p>Intrusive site investigations have not been undertaken, however these will be undertaken as part of the pre-construction detailed design to allow</p>	<p>Further site investigations are planned by the Applicants which will inform the final LCMS to be submitted for approval by ESC. The Outline LCMS contains helpful information on monitoring proposals.</p>

				<p>full assessment of all relevant geotechnical risks and to enable detailed design of the HDDs. Requirement 13 of the DCO requires that a landfall construction method statement is submitted to and approved by the relevant planning authority prior to any landfall works being carried out. This will be in accordance with the Outline Landfall Construction Method Statement (ExA.AS-2.D1.V1), which has been submitted at Deadline 1.</p> <p>The outline landfall construction method statement includes provisions for the following measures to protect the integrity of the cliff:</p> <ul style="list-style-type: none"> • The transition bay will be located a setback distance of at least 85m from the current mapped top of the cliff line. The outline design of the HDD is approximately 10m below the beach level of the cliff line even at the maximum predicted 100 year erosion extent. This is shown indicatively in Appendix 11 (ExA.WQ-1.A11.D1.V1) . The depth of the HDD will be deeper below the toe of the existing cliffs, potentially between 15m and 20m below the toe level. This is to ensure the integrity of the cliff is not compromised and to 	
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					<p>account for natural coastal erosion during the operational life of the Projects.</p> <ul style="list-style-type: none"> • The British Geological Survey Geological Map Sheet 191 (solid and drift) 1:50,000 shows a thin strip of Lowestoft Till formation outcropping along the cliff line to the north of Thorpeness. The anticipated thickness (depth) and geometry of the superficial deposits is such that directional drilling is expected to pass through these and be within the underlying bedrock (Crag Group) where the HDD passes under the current cliff line. HDD uses rotary rather than percussive drilling and only minor vibrations are expected. The detailed design will be developed to take into account the anticipated levels of vibration from the proposed drilling equipment to ensure the integrity of the cliff. • Vibration monitoring will be undertaken in the vicinity of the cliffs as part of the site investigation works to gather background data on vibration levels. This data will be examined to establish a suitable vibration limit which will be maintained during the HDD works to ensure the integrity of the cliffs are maintained. 	
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				<ul style="list-style-type: none"> • Vibration monitoring will be undertaken in the vicinity of the cliffs for the duration of the HDD works. A system will be set up to pause drilling operations if the set vibration limits are exceeded. HDD has been used successfully in similar geology comprising superficial Lowestoft Till formation deposits and underlying Crag Group bedrock, with nearby examples of HDD for cable landfalls for both the Greater Gabbard Offshore Windfarm and the Galloper Offshore Windfarm south of Sizewell village, both approximately 2.5km north of Thorpeness. These HDDs were much shallower and shorter. They extended from agricultural fields, under the cliff line and exited on the beach. The Applicants are not aware of any issues relating to adverse impacts on the cliff line. There were some post installation issues with exposure of transmission cables on the shore at Sizewell, these occurred beyond where the HDDs terminated and are unrelated to the actual HDDs. The proposal for the Projects is to pass beneath the shoreline at depth and exit well offshore, avoiding similar burial issues. 	
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1.11.6	Applicants	<p>Preferred solutions at landfall</p> <p>ES Chapter 4 states that the preferred solution is to HDD from onshore landfall to south of the coralline crag, potentially including HDD under a small section of the southern extent of coralline crag. Further geological and engineering surveys will lead to a final installation location.</p> <p>What are the implications if the preferred solution is not achievable?</p>		<p>HDD is a commonly used technique and has been employed for many projects including East Anglia ONE/THREE, Greater Gabbard, Galloper, Moray East, Sheringham Shoal and Dudgeon. These have been undertaken in a variety of geologies and distances.</p> <p>The Applicants are of the view that HDD is achievable for the Projects. The onshore works area allows for up to four HDD bores. The works area offshore is sufficiently wide to enable the HDD punch out to be appropriately located to avoid the Coralline Crag. The final design of the HDD operation (i.e. angle, depth and exit location) will reflect the results of the site investigation works. This information will be provided in the final Landfall Construction Method Statement, secured under Requirement 13 of the draft DCO (APP-023).</p> <p>Alternative trenchless techniques would also fit within the impact assessment envelope adopted for the EIA.</p>	No alternative / modified approach is stated.
1.11.7	Applicants	Landfall compound, cable entry point, cable exit point, long HDD, coastal		The Applicants refer to Appendix 10 (ExA.WQ-1.A10.D1.V1) of this document. Note that the HDD	The HDD shore break out position is not yet finalised.

		<p>erosion, coralline crag and SPA/SSSI boundary</p> <p>Please provide plan view(s) of the proposed HDD working area(s) including any temporary landfall compound, cable entry point, cable exit point, long HDD, 100 year predicted shoreline, SSSI/SPA boundary and extent of coralline crag</p>		<p>temporary working area described in section 6.6.2.1.3 of Chapter 6 Project Description (APP-054) will contain the HDD entry compounds. The eastern boundary of Work No. 8 is set at least 85m from the cliff and the potential 100-year erosion line to ensure the integrity of the cliff is not compromised and to allow for natural coastal erosion.</p>	
1.14	Other Projects and Proposals				
1.14.1	<p>The Applicants, National Grid</p>	<p>ES Assessment: Infrastructure and Other Users</p> <p>ES Chapter 17 (Infrastructure and Other Users) [APP-065] from paragraph 96 and at Table 17.14 identifies a limited range of range of interactions with other projects raising minor adverse residual impacts in construction and operation and no impact during decommissioning. Consideration is given to EDF energy infrastructure and to subsea cables.</p> <p>a) Is there any need to assess effects on National Grid transmission assets onshore?</p> <p>b) With reference to responses to questions in ExQ1.0 and 1.6 above and the possibility of other grid connections being made at Friston, are there any further interactions that require to be assessed?</p>		<p>a) Any effects upon National Grid onshore transmission assets of relevance are assessed in Chapter 21 Land Use (APP-069), see section 21.6.1.5</p> <p>b) The CIA does not include the proposed interconnectors (Nautilus and Eurolink) or other mooted connections at Friston for the reasons stated in Chapter 5 EIA Methodology (APP-053) (paragraph 86). We also refer the ExA to the responses provided to the Relevant Representations (AS-036) to ESC (009), SCC (009) and Parish councils (e.g. Aldringham-cum-Thorpe response (003))</p> <p>c) The assessment is unchanged.</p>	<p>We would like to draw the Examining Authority's attention to the following document in terms of the likely land requirements of future connections to Work No.41 for the Nautilus Interconnector:</p> <p>https://www.nationalgrid.com/document/132456/download</p> <p>The information provided here indicates the size of the additional bays required for further connections and appears (in the absence of further information form NGET) likely to indicate not just requirements for the Nautilus project but further connections to the proposed NGET Air insulated Substation at the Friston site.</p>

		c) Does the ES conclusion that there are 'no pathways for cumulative impact' in paragraph 96 continue to hold good?			It is considered that the CIA could and should be updated to include the additional bays required for this project given that this information has been published. We recognise that other aspects of the Nautilus project, the project substation and the cable route, cannot be included in the updated CIA as insufficient information is available at present.
1.17	Socio-Economic Effects				
1.17.6	The Applicants	Tourism ES Chapter 30 [APP-078] makes reference to a survey of Trip Advisor reviews , which identified that independent reviews of coastal tourism assets with a view of offshore windfarms shows that of 12,710 reviews (as of 28th of May 2019) only 92 reviewers mention windfarms or wind turbines (or derivatives of these terms) at all, with positive and negative opinions then relatively evenly split. The ES states that this indicates that the majority of visitors (99.72%) to the coast of England either do not hold strong enough opinions about the location of offshore wind development to comment, do not feel negatively towards, or did not notice or see the infrastructure.		a) The National Coastal Tourism Academy (NCTA) conducted research into why visitors choose to visit coastal areas and nearly half of the respondents indicated that they used information from the internet to inform their decision. As such, a survey of Trip Advisor reviews was considered robust as it would be a proxy for how visitors would get an impression of the area. In addition, given the large sample size (12,700 reviews) it was felt this may capture widely held opinions. The Trip Advisor study was therefore conducted to supplement other studies, included in the assessment, Chapter 30 (APP-078) and Appendix 30.2 (APP-571). Appendix 30.2 (APP-571) reviewed 24 studies undertaken	ESC comments on Appendix 13: This tourism impact study commissioned by the Applicants relies on analysing the impact of 11 previous windfarm projects around the UK on local tourism employment data – it does not show any comparable Volume and Value studies that we would normally rely on to analyse trends over time. It shows employment impacts in an area close to an AONB and also a National park but most of the projects analysed are not close to areas we would deem sensitive in the way the Suffolk Coast is defined. The analysis focuses on time series, regional vs district and

		<p>a) Is this survey any more substantially based than a straight search of TripAdvisor reviews? Has this method of determining impact of offshore wind turbines on tourism been endorsed by other bodies or research?</p> <p>b) Is there any more directly relevant research available, either nationally or at a more local level in which specific questions regarding tourists perceptions/views of wind farms have been asked (as opposed to just whether they are mentioned specifically in general TripAdvisor reviews)?</p> <p>c) Could there be a difference between tourist perceptions of wind farms cumulatively i.e. could more wind farms visible along a coast lead to more negative views</p>		<p>from 2002 until 2017, 16 UK based and eight reports from outside of the UK for comparison. The majority of these studies focussed on tourist's perception of windfarms and how this would affect their likelihood of revisiting the area. One study focussed specifically on major infrastructure constructed by the National Grid undertaken in 2014.</p> <p>TripAdvisor has been used in previous studies as highlighted in the Chapter3, also see Trip Barometer for further examples of the use of TripAdvisor data.</p> <p>b) As stated in (a) 24 studies were reviewed as part of the literature review for Chapter 30 ((APP-078).</p> <p>In addition, Biggar Economics have undertaken a study considering changes in visitor behaviour or spending in other areas where there has been offshore wind farm development provided in the <i>Tourism Impact Review (Appendix 13</i> of this Document). The areas chosen were selected to match the wind farms used in the Applicants' TripAdvisor review discussed above. The key finding was that tourism</p>	<p>Landscape comparisons and concludes that the evidence on employment data is conflicting (in some areas tourism employment went up during the windfarm development and in some areas, it went down). The Applicants argue that this conflicting evidence shows that there is no link between windfarm development and local tourism data and, by association, no link to tourism spend and visitor propensity to visit an area.</p> <p>These conclusions seem uncertain in that employment data is only one possible measure of a tourism impact, there is no analysis of visitor numbers and spend and no capability of assessing in detail the impacts on areas of particular sensitivity (only 2 of the 11 examples given are of this nature).</p>
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					<p>employment trends in the studied areas did not suggest any relationship with the construction of the offshore wind farms, for either designated landscapes or other coastal areas. Typically, employment changed in line with the wider region during the construction period.</p> <p>c) One of the locations considered in the <i>Tourism Impact Review</i> (Appendix 13 of this Document) is the Wash, which is adjacent to the Norfolk Coast AONB. There are four offshore wind farms in the Wash between 17km and 33km of the Norfolk Coast AONB. Wind farms have been operational in the Wash since 2011. In the period of the analysis, which is between 2009 and 2018 (covering both construction and operation), there were only two years in which there was no construction activity of offshore wind farms. Overall, during the period of offshore wind farm construction, the trends in employment in tourism-related sectors in North Norfolk broadly reflect those in the county of Norfolk and the East of England. There is no relationship between the construction of any of the wind</p>	
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					farms and changes in visitor, or potential visitor, spending.	
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