East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Responses to Examining Authority's Written Questions 2

Volume 5 – 2.8 Historic Environment

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

Revision Summary				
Rev	**Date**	**Prepared by**	**Checked by**	**Approved by**
001	24/02/2021	Paolo Pizzolla	Lesley Jamieson / Ian Mackay	Rich Morris

Description of Revisions			
Rev	**Page**	**Section**	**Description**
001	n/a	n/a	Final for Deadline 6

Glossary of Acronyms

CHVP	Cultural Heritage Viewpoint
ExA	Examining Authority
OLMP	Outline Landscape Management Plan
PRoW	Public Right of Way

Glossary of Terminology

Applicants	East Anglia TWO Limited / East Anglia ONE North Limited
Cable sealing end compound	A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Cable sealing end (with circuit breaker) compound	A compound (which includes a circuit breaker) which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Construction consolidation sites	Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure.
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
The Councils	East Suffolk Council and Suffolk County Council
Development area	The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order).
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
HDD temporary working area	Temporary compounds which will contain laydown, storage and work areas for HDD drilling works.

Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Link boxes	Underground chambers within the onshore cable route housing electrical earthing links.
Meteorological mast	An offshore structure which contains metrological instruments used for wind data acquisition.
Mitigation areas	Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.
Monitoring buoys	Buoys to monitor *in situ* condition within the windfarm, for example wave and metocean conditions.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order but will be National Grid owned assets.
National Grid overhead line realignment works	Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid.
National Grid overhead line realignment works area	The proposed area for National Grid overhead line realignment works.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO / East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order.
National Grid substation location	The proposed location of the National Grid substation.
Natura 2000 site	A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.
Offshore development area	The East Anglia TWO / East Anglia ONE North windfarm site and offshore cable corridor (up to Mean High Water Springs).

Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.
Offshore electrical platform	A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Offshore platform	A collective term for the construction, operation and maintenance platform and the offshore electrical platforms.
Onshore cable corridor	The corridor within which the onshore cable route will be located.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore cables	The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.
Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.
Onshore infrastructure	The combined name for all of the onshore infrastructure associated with the proposed East Anglia TWO / East Anglia ONE North project from landfall to the connection to the national electricity grid.
Onshore preparation works	Activities to be undertaken prior to formal commencement of onshore construction such as pre–planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations.
Onshore substation	The East Anglia TWO / East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
Onshore substation location	The proposed location of the onshore substation for the proposed East Anglia TWO / East Anglia ONE North project.
Platform link cable	Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.
Transmission DML	The deemed marine licence in respect of the transmission assets set out within Schedule 14 of the draft DCO.

ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
2.8 Historic Environment			
2.8.2	Applicants	**High House Farm** The Heritage Assessment Addendum [REP4-006] notes that the significance of High House Farm would largely be retained with the predicted loss amounting to an adverse impact of low magnitude, equivalent to less than substantial harm and an effect of minor significance in EIA terms. At the ExA's site visits [EV-007d] it was clear that the garden of High House Farm provided clear views across a largely open landscape to the Church of St Mary at Friston. It is fair to say that viewpoints CHVP3 [REP4-008] or VP5 [REP4-036] are not in the same location as the rear garden of High House Farm, being located to the north east and west of this point respectively. The Addendum also states that: *"The presence of the onshore substations and National Grid substation, only 450m to the south-east, would continue to represent a significant change in the character of the landscape in views looking south in the setting of High House Farm"* a) What would be the minimum distance between the curtilage of High House Farm and the proposed sealing end compounds? b) Would the proposals sever any historical connections between High House Farm and the Church of St Mary to the south?	a) The curtilage of High House Farm is understood to be the cluster of former agricultural buildings that now form two properties (Moor Farm and Friston Barn) and their immediate gardens. The distances to the three sealing end compounds given here are measured from the southern boundary of the gardens to the closest point on each sealing end compound: Western compound: 230m Central compound: 250m Eastern compound: 275m b) It is currently possible to see the Church of St Mary Friston in views looking south from the garden of Friston Barn, within the curtilage of High House Farm. Construction of the proposed substations and sealing end compounds would not obstruct this view of the church but the proposed screening planting to the south of Friston Barn would obstruct the view. It should be noted that the Applicants do not consider that this view of the church from the garden of Friston Barn makes a substantive contribution to the significance of High House Farm and therefore the severance of the view would not materially affect the significance of this Listed Building. c) Yes, the Applicants consider that all three development scenarios would have adverse impacts of low magnitude on the significance of High House Farm both without and with the proposed landscape mitigation. Our current assessment of this asset is set out in the ***Heritage Assessment Addendum***

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				c) Do you consider that the construction of the proposals would have any adverse impact on the significance of the heritage asset?	[REP4-006], supported by an analysis of the significance of the asset in ***ES Appendix 24.7*** [APP-519/520, para 55-60]. Summarising this information. The significance of High House Farm (and the justification for its designation as a Grade II Listed Building) resides primarily in its historic fabric. This would be entirely unaffected by the proposed development. The contribution that setting makes to the significance of this asset relates to the rural agricultural character of the surrounding landscape and, more specifically, features in that local landscape relating to the early settlement along the edge of Friston Moor. These elements of the setting support our appreciation of the historical origins of High House Farm as part of the scatter of farms along the edge of the former Friston Moor. All three development scenarios would affect the contribution that setting makes to the significance of High House Farm in the same way. The presence of the substations and related grid connection infrastructure would change the character of the landscape to the south-east of the Listed Building from rural agricultural to developed and industrial. This would change our experience of the asset, diminishing to some degree our ability to appreciate its historic agricultural origins and function. However, the majority of its setting would remain unaffected, including all parts of the former Friston Moor and, as already noted, the asset itself would be unaffected. Taking these points together, it is logical to conclude that the impact on the significance of the asset would be one of low magnitude.

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2.8.3	Applicants	**Friston House** The Heritage Assessment Addendum [REP4-006] notes that Friston House was designed to be appreciated in a private, enclosed woodlands setting with no reference to the wider landscape. Viewpoint CHVP7 [REP4-011] is taken from within these grounds. However, the curtilage and property boundary extends around the outside of these woodlands and includes more open land to the north of the House itself where clear views can be had towards the proposed development sites. Does the setting of the property include any of the wider agricultural landscape around the identified woodlands in your view?	The Applicants were aware at the time of undertaking the original heritage setting assessment that land to the north of Friston House was in the ownership of Friston House and, possibly, within its curtilage. It is possible to see parts of the rear of the house from this area which therefore lies within the setting of Friston House, as it is part of the surroundings in which this asset can be experienced (referring to the definition of setting in NPPF 2018 Annex 2). The Applicants were specifically interested in the narrow enclosed strip of land that extends northwards from the rear of the house and examined this during a site visit. This strip now forms part of the grounds of the house. The Applicants therefore agree that some land to the north of Friston House can be considered to lie within its setting. Quoting again from the NPPF definition of setting: "*Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral*." In our opinion, the land to the north of Friston House does not make a positive contribution to significance. The Applicants found no evidence that the strip of land to the north and views out from it formed part of the way that Friston House was designed to be appreciated (in contrast to the enclosed wooded grounds within which the house was sited). As a result, the fact that this area to the north would have views towards the proposed development site has no impact on the significance of the Listed Building. The fact that part of this

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					area might lie within the curtilage of Friston House does not affect this conclusion. National policy requires us to consider whether a proposal would cause harm to the significance of a heritage asset, including any contribution made by the setting of that asset (NPS EN-1 5.8.11 to 5.8.18). The question that an impact assessment must answer is therefore 'would the proposals affect the contribution that setting makes to the significance of the asset' and not 'would the proposed development change the setting of the asset'. In this case there would be change in the setting to the north of Friston House but no resulting impact on the contribution that setting makes to significance.
2.8.4	Applicants			**Woodside Farm** The Heritage Assessment Addendum [REP4-006] considers that proposed reductions in finished ground levels, heights of structures and extent of the project substations reduces previous assessments of effect on the significance of the heritage asset, with negligible magnitude of impact and minor significance of effect for all three scenarios. The ExA note that the viewpoint relating to this asset, CHVP5 [REP4-010] is set to the west of the listed building on the adjacent public right of way, and that the viewpoint shows the view from the north of the building, between various outbuildings. However, there is no viewpoint that shows the effect on the setting of the listed building from the rear of the heritage asset, either from the	The ExA is correct to note that the Heritage Assessment Addendum contains revised assessments of impact on the significance of Woodside Farm but it should be noted that findings of 'negligible magnitude' only relate to residual impacts after the implementation of landscape mitigation (REP4-006, Table 2). Impacts for all three scenarios without mitigation are considered to be of 'low magnitude' (REP4-006, Table 1). The Applicants agree that the viewpoint related to Woodside Farmhouse is located on the PRoW to the west of the Listed Building. This viewpoint was selected to show how the projects would appear in combination with the Listed Building and, as a result, the Applicants recognise that the building partially

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				projects themselves, or from the proposed mitigation planting. Would such a viewpoint lead to different potential effects on the setting and the significance of Woodside Farm?	screens both the proposed substations and mitigation planting from view. This partial screening has not significantly affected our ability to understand the visual relationship between asset and projects because we know that the maximum proposed building heights and relationship with screening vegetation remains constant as these features run behind the Listed farmhouse in the photomontage. We can therefore understand the visual prominence of the substations and the likely effectiveness of screening in the setting of the farmhouse without recourse to additional photomontages. It is important to note that cultural heritage impact assessment is not a viewpoint-based assessment (unlike visual impact assessment where the assessor reaches conclusions about impact on a specific view). Nor does the level of visual change in any view predict the degree of impact on the significance of an asset, this will depend on how setting contributes to significance. As a result, the conclusions reached regarding impacts on the significance of Woodside Farm do not specifically or directly reflect the level of visual change in the view illustrated by Cultural Heritage Viewpoint (CHVP)5. More importantly, simply changing the viewpoint that is illustrated, or adding a second photomontage, will not change the assessment of impacts unless it changes our understanding of the predicted change in setting in a substantive way. However, we understand from the nature of the question posed, that the Examining Authority (ExA) would prefer some additional evidence on this point. The Applicants will therefore illustrate a second viewpoint relating to this asset, a location

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					immediately to the north of the farmhouse where there would be an uninterrupted view towards the substations. This additional visualisation will be submitted into the Examinations at Deadline 8.
2.8.5	Applicants			**Little Moor Farm** The Heritage Assessment Addendum [REP4-006] considers that the revised OLMP and an included woodland belt, as well as reduced finished ground levels and heights of structures would reduce previous assessments of effect on the significance of the heritage asset, with low magnitude for all three operational arrangements, is equivalent to less than substantial harm and an effect of minor significance in EIA terms. However, CHVP4 [REP4-009] continues to show a large section of the proposed National Grid substation still to be visible, even after 15 years of operations, with the previous largely open view of the Church at Friston completely removed by the proposals. Further justify your view for the reduction in proposed effect on the significance of the heritage asset.	CHVP4 is a location on the Public Right of Way (PRoW) immediately to the east of Little Moor Farm and is one of two viewpoints that have been used to illustrate how the projects would affect the setting of this Listed Building. The other viewpoint is CHVP3 [REP4-008], on the PRoW between Little Moor Farm and High House Farm. As noted by the ExA, the revised Outline Landscape Management Plan (OLMP) includes an additional belt of trees to the south of CHVP4 that is predicted, following fifteen years of growth, to largely screen the substations in this view. The predicted level of screening at CHVP4 may be appreciated by comparing the photomontages showing all three substations without screening (Figure 9g) and with screening (Figure 9h). Only a short section of the national grid substation and the gantry for the eastern sealing end compound remain visible in Figure 9h. The adverse impact that the projects would have on the significance of Little Moor Farm is due largely to the change in landscape character that the substations would cause. The current landscape setting of Little Moor Farm is rural and agricultural, supporting our appreciation of this 17th century farmhouse in an appropriate, albeit not original landscape setting.

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			In the original assessments of Little Moor Farm [ES Appendix 24.7, APP-519/520] a residual adverse impact of medium magnitude primarily reflected the failure of the OLMP at that point to mitigate the dominant presence of the substations in the immediate vicinity of Little Moor Farm (as illustrated by photomontages from CHVP4). Revision of the OLMP and the addition of a tree belt to the south of CHVP4 would considerably reduce the visibility of the substations. When this measure is combined with other proposals in the OLMP. Including the tree belt south of Friston Barn and the planting along the track running east from Little Moor, the overall result is the retention of Little Moor Farm in a landscape that retains much more of a rural agricultural character. It is this analysis that leads to the revised conclusions regarding residual impact as summarised in Table 2 of REP4-006. The mitigation provided for in the OLMP is now considered to materially reduce the adverse effect of the substations on the landscape character of the setting of Little Moor Farm. The ExA also notes that the Church of St Mary Friston is currently visible in the view from CHVP4 and this view would be obstructed by the proposals. This obstruction was noted by the Applicants in the original heritage assessment [APP-519/520] where it was addressed as part of the analysis of the setting of the church. In that assessment the loss of sequential views of the church when walking south along the path to Friston (not simply the static view from CHVP4) was identified as the key change in the setting of the church that would lead to loss of significance.

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					Blocking of the path and the loss of views towards the church would be caused by the buildings of the substations and the additional screening due to the tree belt now proposed in the revised OLMP does not increase this loss of significance for the church. Given that this issue has been raised by the ExA in the context of a question about Little Moor Farm, it should be noted that the loss of views towards the church along the path is not judged to be an adverse impact on the significance of Little Moor Farm. It is the church that is appreciated as a visible focal point in its parish and therefore it is the significance of the church that is harmed by the loss of the sequential views.
2.8.6	Applicants			**Church of St Mary** At the ExA's site visits [EV-007d] the tranquillity of the Church and its graveyard was noted, including the War Memorial. An inspection inside the Church allowed items detailed in the building's listing to be appreciated and it could be seen that views over the fields to the north could be made not only from various points within the grounds of the Church, but also from the northern windows in the Church's nave. Make any further comments you wish to make concerning any effects of the proposals on the significance of the relevant heritage assets, including on both during operation and construction of the proposals.	The Applicant agrees that the church and its graveyard are tranquil places and this quality supports the experience and appreciation of the church and war memorial as places for reflection and quiet contemplation both now and in the past. However, the spatial separation of the substations from the church means that, once operational, it will remain a tranquil place. This reflects the limited visibility of the substations in views looking north from the graveyard and the absence of intrusive noise from the substations. Similarly, the appreciation of features of historic and architectural interest within the church will not be diminished by the fact that a visitor in the church might have a partial view towards the substations if they were to look out of one of the north-facing windows. Again, the spatial separation and limited visual change will ensure that the church and its historic character will continue to dominate the experience. The Applicants will continue to revise the OLMS in consultation

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			with interested parties to further reduce the level of change in the setting of the church. In considering the predicted impact of the proposals on the significance of the church it is essential that any evidence for change in the setting is considered in the context of how setting contributes to the significance of the asset 'in the round'. Therefore, whilst we recognise that elements of the substations would be more or less visible in views north from the churchyard (depending on the precise viewpoint chosen), there are many other valued views both out from and towards the church that would be entirely unchanged. The analysis provided by the applicants [APP-519/520 and REP4-006] aims to provide a balanced summary of all relevant aspects of the setting, not simply those areas where change is predicted. It is also important to note that the viewpoints selected for illustration inevitably focus on aspects of the setting where change would or might occur. A balanced understanding of how the setting would change can therefore only be gained from a site visit with copies of the visualisations to hand. All of the comments above relate to the operation of the substations and it is accepted that the construction phase would include works closer to the church. These would include excavation of the cable trenches between the church and Grove Wood, sub-surface drainage works extending south from the substations and landscape mitigation planting in the fields to the north of the church. All of these activities would generate some degree of temporary noise and visual disruption in the setting of the church. However, as justified in

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					the original heritage assessment (ES Appendix 24.7, APP-519), any adverse impact on significance would be short-lived and entirely reversed at the end of construction works, and therefore does not merit detailed consideration. The Applicant remains confident that it is only the permanent changes in the setting of this and other heritage assets due to the operation of the substations that has potential to cause significant adverse effects.
2.8.7	Applicants			**Sealing End Compounds** Historic England [REP4-079] raise concerns over the location of the two western most sealing end compounds, considered that these appear to "crash into the landscape rather than be placed with care". In response you state that [REP5-012] the final design and micrositing of the cable sealing ends can only be decided during the detailed design stage. Why is this and can you provide any further information over the proposed sealing end compounds, their location and any potential mitigation?	The Applicants have discussed the matter with Historic England on a number of occasions and reject the accusation that the cable sealing end compounds 'crash into the landscape rather than be placed with care'. The positioning of the cable sealing end compounds are driven by the positioning of the pylons to which they are connected, and their proximity and orientation are governed by construction, operation and maintenance safety and operational requirements. The 400kV 'downleads' for instance, from the overhead line pylons, must connect each overhead line cable with the cable sealing end. The downleads must come off the pylons at a particular location and maintain a suitable clearance distance between the cables and the pylon, and any surrounding features, and ensuring the cables do not touch. There is limited flexibility in the orientation of the downleads, resulting in limited flexibility in the location and orientation of the cable sealing end compounds.

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					The precise location and orientation of the cable sealing end compounds will be established during the detail design stage and will be influenced by the final footprint of the National Grid substation, overhead line alignment design, clearance distances required from other equipment and the pylons to which they are connected, and constructability assessments to ensure safe construction of the National Grid infrastructure. The Applicants will update the S***ubstations Design Principles Statement*** (REP4-029) to highlight that, where practicable and taking into account the electrical safety requirements, cable sealing end compounds will be aligned to the same orientation as adjacent field boundaries.