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# Bramford to Twinstead Reinforcement

## Volume 8: Examination Submissions

Document 8.3.2.2: Applicant's Written Summary of Oral  
Representations to Issue Specific Hearing 1

Final Issue A  
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# 1. About This Document

## 1.1 Introduction

- 1.1.1 This document summarises the case put forward by National Grid Electricity Transmission plc (the Applicant), at Issue Specific Hearing 1 on 14 September 2023. Issue Specific Hearing 1 focused on the scope and details of the development and draft Development Consent Order (draft DCO) for the Bramford to Twinstead Reinforcement project (referred to as the project).
- 1.1.2 The hearing opened at 10am at the Stoke by Nayland Resort and closed at 6pm. The agenda for the hearing was set out in the Examining Authority's (ExA) letter published on the Planning Inspectorate's website on 30 August 2023 [EV-002].
- 1.1.3 In what follows, National Grid's submissions on the points raised broadly follow the items set out in the ExA's agenda.

## 1.2 Attendees on behalf of the Applicant

- 1.2.1 Michael Humphries KC, Counsel instructed by Bryan Cave Leighton Paisner LLP (BCLP), appeared on behalf of National Grid, the Applicant.
- 1.2.2 The following expert witnesses also made submissions throughout the hearing:
  - John Bevan, National Grid (project need and scope)
  - Rob Fielden, National Grid (design and construction)
  - Cheryl White, Jacobs (environmental impact assessment)
  - Jonathan Hale, Jacobs (transport assessment)
  - Kate Carpenter, Jacobs (access and highway design)
  - James Parker, BCLP (draft DCO)

## 2. Applicant's Summary of Case on Item 3: The Proposed Development

### 2.1 Item 3.1 Summary of the Scope

Table 2.1 – Item 3.1 Summary of the Scope

Issue Discussed	Summary of Oral Case
<b>i. Overview of the Proposed Development</b>	
Need case and overview of the Proposed Development.	<p>The Applicant submitted that the Bramford to Twinstead Reinforcement is essential to facilitate the connection of new offshore wind generation, nuclear generation, and interconnectors. This is in line with meeting the UK government's 2030 offshore wind and 2050 net zero targets. This is set out in the Need Case document [APP-161].</p> <p>The Applicant explained that the project involves the reinforcement of the electricity transmission network between Bramford Substation in Suffolk and Twinstead Tee in Essex, as detailed in Environmental Statement (ES) Chapter 4: Project Description [APP-072]. This would be achieved by the construction and operation of a new electricity transmission line over a distance of approximately 29km, comprising approximately 18km of new overhead line and 11km of new underground cable.</p> <p>The development of the project is described in the Evolution of the Project document [APP-166]. This includes multiple stages of options appraisal, consultation, assessment and refinement.</p>
Flexibility in the design and layout sought.	<p>A proportionate level of flexibility is sought, primarily through Limits of Deviation (LoD). The Applicant noted that the sought flexibility will allow the project to be delivered in an efficient manner in accordance with its Electricity Transmission Licence obligations.</p>
Where representative visualisations can be accessed.	<p>The Applicant directed the ExA to representative visualisations contained in ES Chapter 4: Project Description [APP-072], where a number of photographs and illustrations show how different components of the project will look.</p> <p>Further, each representative viewpoint in ES Appendix 6.4: Viewpoint Assessment [APP-101 to APP-107] shows a Baseline Wireline image of the existing baseline and a wireline of the project, illustrating the difference in views from each viewpoint.</p> <p>The Photomontages [APP-063 to APP-065] illustrate how the project may look from certain viewpoints, and these images should be viewed alongside the methodology in the Photomontages [PDA-001].</p>

Issue Discussed	Summary of Oral Case
Summary of the proposed new infrastructure.	<p>The Applicant explained that, in accordance with ES Chapter 4: Project Description [<b>APP-072</b>], the proposed new infrastructure consists of:</p> <ul style="list-style-type: none"> <li>• Approximately 18km of new 400kV overhead transmission line (consisting of approximately 50 new pylons and conductors);</li> <li>• Approximately 11km of new 400kV underground cable system (with associated joint bays and above ground link pillars);</li> <li>• Four cable sealing end (CSE) compounds to facilitate the transition between the overhead line and underground cable technology - each CSE would be within a fenced compound, and contain electrical equipment, support structures, control building and a permanent access track; and</li> <li>• A new grid supply point (GSP) substation to facilitate the removal of the existing 132kV overhead line. The development of the GSP substation would include associated works, such as replacement pylons, a single circuit sealing end compound and underground cables to connect the GSP substation into the existing 400kV and 132kV networks.</li> </ul>
Existing infrastructure to be removed.	<p>The Applicant explained that, in accordance with ES Chapter 4: Project Description [<b>APP-072</b>], the existing infrastructure to be removed consists of:</p> <ul style="list-style-type: none"> <li>• Approximately 25km of existing 132kV overhead line and associated pylons between Burstall Bridge and Twinstead Tee;</li> <li>• Approximately 2km of existing 400kV overhead line and associated pylons to the south of Twinstead Tee; and</li> <li>• At Bramford, approximately 1km of existing 400kV overhead line to the north-east of Hill Farm (comprising three pylons and the intervening spans of conductors).</li> </ul>
Modifications to existing infrastructure.	<p>The Applicant explained that, in accordance with ES Chapter 4: Project Description [<b>APP-072</b>], the General Arrangement Plans (GAP) [<b>APP-018</b>] show modifications (orange) and realignment (grey). For example, on GAP sheet [28], modification of the pylon is shown on the plan in orange, creating a tighter angle for the realignment of the overhead line to the east to facilitate the connection to the CSE compound.</p>
Types of temporary infrastructure.	<p>The types of temporary infrastructure are detailed in ES Chapter 4: Project Description [<b>APP-072</b>]. The Applicant provided the following examples:</p> <ul style="list-style-type: none"> <li>• Temporary infrastructure includes temporary access routes, access points and watercourse crossings (further detail provided under agenda item 5.3);</li> <li>• Temporary pylons, such as near Hintlesham Woods Site of Special Scientific Interest for the transposition; and</li> <li>• Temporary construction compounds, such as the main temporary construction compound established off the A134 at Leavenheath (further detail provided under agenda item 4.2), as shown on GAP [<b>APP-018</b>] Sheet 16.</li> </ul>

Issue Discussed	Summary of Oral Case
<b>ii. Status of design</b>	
The current status of the design.	<p>The project is currently at preliminary design stage. Detailed design will be carried out prior to construction once the main works contractor is appointed.</p> <p>The Applicant confirmed that, as stated in ES Chapter 4: Project Description [APP-072], the environmental assessment is based on a Proposed Alignment, which is the design that is shown on the GAP [APP-018] and ES Figure 4.1: The Project [PDA-002]. However, as stated in ES Chapter 5: Environmental Impact Assessment (EIA) Approach and Method [APP-073] section 11 of each ES topic chapter covers sensitivity testing that has been undertaken to identify if any new or different likely significant effects may occur due to the flexibility allowed for within the draft DCO compared to the assessment undertaken in the previous sections.</p>
Maximum span of the new overhead 400kV cables.	Although the maximum span across the new overhead 400kV cables is difficult to determine, the average span can be approximated at 350m dependent on the terrain and items present within the spans. Between three pylons, there would be a limit of 800m without additional design calculations.
<b>iii. Consistency checks</b>	
Maximum pylon height.	This is addressed in response to Action Point 1 (AP1) in the Applicant's Response to Issue Specific Hearing 1 Action Points ( <b>Document 8.3.9</b> ).
Length of apparatus to be removed.	This is addressed in response to Action Point 2 (AP2) in the Applicant's Response to Issue Specific Hearing 1 Action Points ( <b>Document 8.3.9</b> ).
Amount of agricultural land within the Order Limits.	This is addressed in response to Action Point 3 (AP3) in the Applicant's Response to Issue Specific Hearing 1 Action Points ( <b>Document 8.3.9</b> ).
<b>iv. Section of 132kV Overhead Line section to be Retained</b>	
Justification for retaining this section.	<p>The existing 132kV distribution network is owned and operated by United Kingdom Power Networks (UKPN).</p> <p>It is not intended that the 132kV overhead line between PCB 89 and PCB 98 is removed as part of the works permitted under the DCO, since removal of this section of overhead line is not required as part of the proposed reinforcement works (to vacate the corridor of the new 400kV overhead line) or otherwise required to mitigate the effects of the reinforcement (no new overhead line is proposed in this location).</p> <p>Following consultation feedback received, the Applicant discussed the potential removal of the remaining spans of 132kV overhead line with UKPN. The Applicant's understanding is that UKPN does not want the removal of these spans to be included as part of the authorised development under the draft DCO.</p>



Issue Discussed	Summary of Oral Case
	<p>The Applicant understands UKPN's position to be that this section of overhead line is of strategic importance to delivering the area's future electrical needs, at a lower cost to the consumer.</p> <p>Given this section of overhead line is not the Applicant's asset, and there is no project requirement to remove it, the Applicant has respected UKPN's position and their interest as a statutory undertaker.</p>
Whether this section will retain function or become redundant.	The Applicant cannot comment on the intention of UKPN regarding future function for this section. However, once the GSP substation and new 132kV connection is operational, it understands that the section of 132kV overhead line to be retained to the east would not be operational.
<b>v. UKPN Works</b>	
Summary of the UKPN works.	The Applicant explained that the authorised development covers all aspects of development for the project, including work numbers for the removal of the UKPN pylons. The draft DCO would grant development consent for UKPN to undertake the UKPN Works (as defined therein), which are a sub-set of the full authorised development works. The draft DCO contains a fall-back position to allow the Applicant to undertake the UKPN Works if not undertaken by UKPN. A main works contractor is yet to be appointed, however it is envisaged that UKPN would remove the end sections of the 132kV overhead line to isolate it from its network, with the main works contractor then completing the 132kV overhead line removal works.
ES assumptions for UKPN works.	The Applicant confirmed that the ES has assumed that UKPN may undertake certain works pursuant to the DCO.
Control measures.	UKPN would need to undertake works in accordance with the management plans, as required by Requirement 4 of the draft DCO [ <b>APP-034</b> ], including the Construction Environmental Management Plan (CEMP) [ <b>APP-177</b> ]. The CEMP paragraph 1.2.6 confirms that the CEMP applies to all works undertaken pursuant to the DCO, whether undertaken by the Applicant, UKPN or any contractors appointed by those organisations.
<b>vi. Third party assets</b>	
Scale of the interactions with third party assets.	<p>Third party assets (including water, sewage, communications, electricity, gas and private apparatus) have been identified through desk top searches. The Applicant is in discussions with all relevant statutory undertakers regarding interactions and asset protection measures, which are, or will generally be, covered by Statements of Common Ground (SoCGs), protective provisions or commercial side agreements. This address known apparatus that generally require no or very localised protection or diversion works.</p> <p>There remains a risk of identifying unknown services during pre-construction surveys or construction works.</p> <p>The main interaction would be with UKPN's 132kV electricity distribution network and this is covered in the UKPN Works in Schedule 1 of the draft DCO. In addition, there are a number of lower voltage (11kV and 33kV) overhead lines (on wooden poles) interactions and service connections for key sites. There are designs from UKPN for the potential undergrounding or diverting of those assets, requiring</p>

Issue Discussed	Summary of Oral Case
	short duration and locally based works. No construction compound would be needed for those works, instead the area on site would be utilised for a number of days and then demobilised.
Other utilities.	The Applicant confirmed that the overhead line was predominantly designed using utility maps to avoid services as far as possible; although there are interactions in the cable sections due to the intrusive nature of the work. The Applicant would generally seek to go underneath utilities to avoid moving them, where possible. Utility providers are aware of the project and the Applicant is progressing SoCGs, protective provisions or commercial side agreements with the utility providers.
Control measures.	Management plans control the construction works for the authorised development. However, the Applicant noted that the management plans would not apply where the utility companies act under their own powers, although such works would be bound by the requirements of the relevant utility company's own legislation.

## vii. Community Engagement

Proposed community engagement approach.	The Applicant stressed its commitment to engaging with local communities during construction, as evidenced on its recent projects (such as the Hinkley Point C Connection).
	The Applicant's approach to community engagement is set out at section 3.4 of the CEMP [APP-177], which includes providing information to local residents during construction. Such information would be specific to the work to be carried out, providing a description of the proposed works, as well as their location, extent and duration. Local residents would also be informed of the commencement of construction work activities by letter drop. Contact details would be included in the letter drop, displayed at the entrance to the main site, and provided to the local authorities and other relevant parties.
	The community relations team will record the details of any complaints and how these are to be investigated and appropriately managed. The proposed complaints procedure is described in Section 15.4 of the CEMP [APP-177], which states that all complaints associated with the construction of the project, including non-conformance with the CEMP and other management plans, will be reported and investigated using a detailed complaints procedure developed by the contractor.

## 2.2 Item 3.2 TCPA 1990 (22/01147/FUL) GSP Substation

Table 2.2 – Item 3.2 TCPA 1990 (22/01147/FUL) GSP Substation

Issued Discussed	Summary of Oral Case
<b>i. GSP substation consenting</b>	
Overview of the GSP substation.	<p>The Applicant explained that the GSP substation is an essential element of the proposed application. It is required to allow the Applicant to remove the existing 132kV overhead line, facilitating the construction of the new overhead line and is, therefore, an important element of the embedded measures for landscape effects.</p> <p>The Applicant took the decision to apply for planning permission under the Town and County Planning Act 1990 (TCPA) and associated consents for the GSP substation as it is on the programme critical path for the project and given the urgent need to reinforce the network generally. It is the first step in constructing the reinforcement, its scope including providing UKPN with a supply of power to replace the current supply provided by the existing 132kV overhead line, which is to be removed.</p> <p>This part of the development includes super grid transformers and associated works, replacement pylons, a single circuit sealing end compound and underground cables to connect the GSP substation into the existing 400kV and 132kV electricity networks.</p>
Scope of the GSP substation consenting.	<p>The extant consents for the GSP substation comprise:</p> <ul style="list-style-type: none"> <li>• Planning permission under the TCPA granted by Braintree District Council (BDC) Ref: 22/01147/FUL - this covers the GSP substation compound and related works;</li> <li>• Resolution to grant TCPA section 73 variation to 22/01147/FUL by BDC Ref: 23/01488/VAR - covering layout alterations to approved plans and the trigger point for the drainage condition; and</li> <li>• Electricity Act section 37 consent from the Department of Business Energy and Industrial Strategy (as it was) Ref: 12.04.09.05-1591U - the required Electricity Act consent for works to the existing 400kV and 132kV overhead lines.</li> </ul> <p>The Applicant confirmed that the design included within these applications is the same as that which could be delivered within the parameters of the draft DCO (noting a detailed planning application does not provide for Limits of Deviation in the same way as a DCO). The associated embedded measures, good practice measures and management plans are comparable.</p> <p>The Applicant noted that a suite of secondary consents will be required once construction has commenced, including highways consent and protected species licences.</p>
Documents to be included in the Examination	<p>The Applicant committed to providing copies of the extant consents and related management plans in respect of the GSP substation planning permission to the Examination so that they can be added to the examination library. This is addressed in Extant Grid Supply Point Substation Consents (<b>Document 8.3.12</b>).</p>

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## ii. Implementation

Intentions regarding implementation.	<p>The Applicant confirmed that:</p> <ul style="list-style-type: none"><li>• All pre-commencement planning conditions have now been discharged and early enabling construction works have begun on the site;</li><li>• Construction is expected to continue over the next 18 months; and</li><li>• It had all the required consents to allow construction to commence.</li></ul>
Impact of works starting on the ES and construction schedule.	<p>The Applicant confirmed that the main works contractor for the GSP substation has been appointed and is undertaking early enabling works. The current anticipated programme is consistent with the Baseline Schedule outlined in ES Appendix 4.2 [APP-090].</p> <p>The ES considered two construction schedules. One where the GSP substation was constructed pursuant to the TCPA planning permission and one where the GSP substation was constructed pursuant to the DCO.</p>

## iii. Interaction of the wider consenting strategy with the draft DCO

The Applicant's stance.	<p>The Applicant confirmed that its current view is that the GSP substation should be retained in the draft DCO to ensure delivery should the GSP substation not be delivered pursuant to the TCPA and associated consents.</p> <p>The GSP substation remains a critical element of the overall reinforcement, particularly to delivery of the embedded mitigation in the form of removing the 132 kV overhead line, and therefore it is essential that there is no impediment to its delivery.</p>
Impediments to delivery via the TCPA and associated consents.	<p>There remain a number of potential impediments to fully delivering the GSP substation via the TCPA and associated consents. These include securing:</p> <ul style="list-style-type: none"><li>• Voluntary land rights for some of the minor works;</li><li>• Secondary consents (relating to, for example, highways, public rights of way (PRoW), drainage and protected species);</li><li>• Discharge of further conditions required for future phases of the development (i.e. those required prior to operation); and</li><li>• Any further applications for variations given the TCPA permission does not allow for flexibility in the same way as the proposed LoD included within the draft DCO.</li></ul> <p>The Applicant confirmed that whilst it had purchased the main GSP substation site, giving it control of the land, a number of other voluntary land agreements are required to fully deliver the GSP substation and associated works. Therefore, the DCO would provide a last resort option to secure those rights, removing any unidentified rights and cleaning title as appropriate.</p>

## iv. Requirement for GSP substation should the DCO not be granted

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Risk of DCO refusal following GSP substation construction.	<p>The Applicant noted that it accepts the risk of constructing the GSP substation pursuant to the TCPA and associated consents in circumstances that the DCO is refused.</p> <p>Should the Secretary of State refuse to grant the DCO, the Applicant would need to review the reasons for refusal to determine next steps. However, given the policy support and existing need case for reinforcing the transmission network between Bramford and Twinstead, it is expected that an alternative or amended proposal would still be necessary between Bramford and Twinstead. Therefore, the refusal of this project as proposed would not mean the GSP substation works are not required.</p>
Role of GSP substation should the DCO grant be refused.	<p>The Applicant confirmed that it does not currently envisage circumstances where the GSP substation would not have a role and could therefore be removed. It is likely to have wider electricity system benefits, for example by providing generation connections onto the transmission network or by providing demand supply to the distribution network. Both of these uses are anticipated to be required to facilitate the government's ambitions around decarbonisation of energy and longer-term net zero targets.</p>
Whether a TCPA condition creates a link to the outcome of DCO application.	<p>The Applicant confirmed that the TCPA planning permission does not include a condition that links that permission with a requirement for the grant of DCO consent.</p>
<b>v. Other Matters</b>	
ES Figure 3.4, Sheet 4, Page 18	<p>The Applicant confirmed that the overhead line is incorrectly labelled on the ES Figure 3.4 [APP-145]. It is shown as 400kV when it should be 132kV (as per all other plans and drawings). This is, however, a historical optioneering plan (showing GSP substation study areas) and therefore does not change the basis of the assumptions used or the outcomes of the ES.</p>

## 2.3 Item 3.3 Limits of Deviation

Table 2.3 – Item 3.3 Limits of Deviation

Issue discussed	Summary of oral case
<b>i. Reasons for LoD</b>	
Summary of the works.	The project is summarised in ES Chapter 4: Project Description [APP-072], and in more detail in Schedule 1 of the draft DCO [APP-034]. The project consists of three types of works: overhead lines, cables and non-linear works such as the CSE compounds and the GSP substation.
Explanation of and reasons for the LoD.	<p>As identified in the Glossary and Acronyms [APP-006] ‘Limits of Deviation’ (LoD) are defined as an allowance for adjustment to the final positioning of the permanent infrastructure.</p> <p>Article 5 of the draft DCO [APP-034] sets out the LoD. LOD apply to both linear (for example overhead line and underground cables) and non-linear (such as the GSP substation and CSE compounds) works.</p> <p>Article 5 of the draft DCO [APP-034] sets out the LoD and the LoD are shown on the Work Plans [APP-010]. The horizontal LoDs are coloured orange (for overhead line), blue (for cables) and pink (for non-linear works).</p> <p>The vertical LoD limit the maximum height and the below ground depth, of any new infrastructure. The Schedule of Parameters at the end of the Work Plans [APP-010] identifies the proposed parameters of the design to which the LoD apply. The horizontal LoD define the parameters within which the position on the ground of proposed permanent infrastructure may deviate from the position shown on the plans.</p> <p>The Design and Layout Plans Pylon Working Area [APP-029] identifies generic working areas around the two types of pylon (suspension and tension) required for construction. LoD allow the Applicant to avoid localised constraints, as well as unknown or unforeseen issues that may arise. The reasons for flexibility could include previously unidentified poor ground conditions that may require a pylon to be moved slightly for geotechnical reasons, such as ground stability.</p>

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Relevance of the LoD in **Overhead Line Near Assington**  
specified locations.

The LoD here are on a line section of the route and are shown on Works Plans Sheet 17, page 20 [APP-010]. The use of LoD here would predominantly be driven by the tension pylon (RB40) utilising the LoD due to unforeseen ground conditions.

In regard to downwards LoD, the Applicant clarified that these are as far as necessary, allowing deeper foundations when constructing pylons to deal with uncertain ground conditions.

Further information on the approach to the setting of the LoD is provided in response to Action Point 4 (AP 4) in the Applicant's Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**).

#### **Stour Valley East CSE Compound**

The equipment used within the CSE compound, as per Design and Layout Plans Stour Valley East Cable Sealing End Compound [APP-025], is in accordance with technical requirements and with other similar compounds utilised throughout the National Grid network. The size of the compound is circa 45m x 70m and is necessary to accommodate the required equipment and to provide a safe and secure compound throughout the asset life.

The LoD for the CSE compound are intended to allow the main works contractor, once appointed, some flexibility with the final positioning / layout of this compound. This assists with the detailed design of the compound and the interface positions between the underground cable and overhead line whilst at the same time constraining the position of the CSE compound within the area assessed.

The LoD have been derived by applying a 25m buffer zone on each side of the CSE compound dimensions, as per Design and Layout Plans Stour Valley East Cable Sealing End Compound [APP-025] which allows for the repositioning of the compound to suit final overhead line / underground cable alignments, or to relocate equipment items if needed to avoid unexpected ground conditions.

At the CSE Compounds the non-linear LoD and the linear LoD overlap to allow for all equipment to be accommodated within the LoD.

#### **Trenchless Crossings**

The proposed location is at the centreline of the cable alignment, as shown in the General Arrangement Plans [APP-018] but they could be located anywhere within the Order Limits. A trenchless crossing (EM-G04) is required under the B1508, the River Stour and the Sudbury Branch Railway Line. The LoD allow for modification of the design to accommodate local ground conditions and to provide the main works contractor with flexibility regarding the exact methodology used for construction.

The LoD are wider at trenchless crossings as the cables need to be spaced a sufficient distance apart to dissipate heat. The cable swathe for the trenchless crossing is approximately 120m wide, whereas for ducted sections the working cable swathe (including stockpiles of excavated material next to trench) is 80m wide.

#### **Stour Valley Temporary Bridge**

The temporary bridge over the River Stour is to provide access to the temporary construction compounds for the trenchless crossings. The current design assumes that the bridge is at the centreline of the cable alignment, as shown in the GAP [APP-018] but it could be located anywhere within Order Limits.

The example design shown in the Design and Layout Plans Temporary Bridge for Access [APP-031] shows how the design would avoid disturbance to the river habitat. There are also further good practice measures e.g. W11, W17 and W18 in the Code of

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Construction Practice (CoCP) [APP-178] and EM-G07 and EM-G08 in the Register of Environmental Actions and Commitments (REAC) [APP-179] that have further commitments regarding the design of the bridge across the River Stour to reduce flood risk and impacts on navigation.

The CoCP and REAC are both secured through Requirement 4 of the draft DCO [APP-034]. Some of these commitments include modifier language, such as 'where practicable' as the Applicant has not yet appointed a main works contractor and the detailed methodology is not yet available. Also, as stated in Table 2.1 of the CEMP [APP-177], the Applicant is intending to seek Flood Risk Activity Permits from the Environment Agency for works that affect main rivers such as the River Stour.

The ExA noted that the Habitats Regulations Assessment (HRA) Report [APP-057] gives the impression that impacts on the channel would be avoided. The Applicant can confirm that the commitments outlined in Table 6.1 of the HRA Report are standard good practice measures employed on many large infrastructure projects and are not novel or unusual methods. The Applicant is committed to implementing these measures which are set out in the management plans and secured through Requirement 4 of the draft DCO [APP-034]. Therefore, the Applicant is confident that through the application of these measures, any likely significant effects on the designated sites set out in the HRA Report can be avoided.

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# 3. Applicant's Summary of Case on Item 4: Construction Matters

## 3.1 Item 4.1 Phasing of the Works

Table 3.1 – Item 4.1 Phasing of the Works

Issue discussed	Summary of oral case
<b>i. Summary of the phasing of the works</b>	
Summary of the phasing of the works.	<p>The Applicant summarised the phasing of the works as follows (as shown in the Construction Schedule: ES Appendix 4.2 [APP-091] and summarised in Section 4.4 of the Project Description: Chapter 4 of the ES [APP-072]):</p> <ul style="list-style-type: none"><li>• Construction at the GSP substation would commence ahead of the main project, with the majority of the civils works at the GSP substation being complete in 6 to 8 months;</li><li>• This would be followed by enabling works for the main project, which are assumed to start in autumn 2024;</li><li>• The removal of the 132kV overhead line would occur once the GSP substation is operational, which is assumed to be January 2025;</li><li>• This would be followed by installation of the 400kV overhead lines and underground cables. This would take approximately two years (2025 to 2026);</li><li>• The removal of the 400kV overhead lines, transposition around Hintlesham woods and approach to Bramford substation are due to be completed during 2027/28 (subject to agreed outages); and</li><li>• The temporary works would be removed following testing (although some would be removed earlier in the phasing as sections are completed).</li></ul>
<b>ii. Underground works: Cable Working Area Cross Section</b>	
Overview.	<p>As summarised in Section 4.7 of ES Chapter 4: Project Description [APP-072], at present the Applicant has not appointed a main works contractor, however the design assumes multiple underground cables would be installed at the same time using a ducted solution. The stripping, digging and backfilling required for the underground works is envisaged to be a rolling daily process.</p>

	<ul style="list-style-type: none"> <li>• Enabling works include a temporary access road, fencing and topsoil strip;</li> <li>• Gangs will excavate the trench, lay the ducts and backfill in short sections;</li> <li>• Cables will be pulled through the ducts using a winch and joined at jointing pits; and</li> <li>• Testing of the high voltage cables and removal / reinstatement of the temporary access routes would follow.</li> </ul>
Soil storage.	This is addressed in response to Action Point 5 (AP5) in the Applicant's Response to Issue Specific Hearing 1 Action Points ( <b>Document 8.3.9</b> ).
Assumptions and dimensions applied to temporary haul routes.	This is addressed in response to Action Point 6 (AP6) in the Applicant's Response to Issue Specific Hearing 1 Action Points ( <b>Document 8.3.9</b> ).
<b>ii. Bramford Substation</b>	
Overview	<p>As summarised in ES Chapter 4: Project Description [<b>APP-072</b>], works are required at Bramford Substation to accommodate the new 400kV overhead line and changes to the existing overhead line configuration. This would include concrete or piled foundations to be installed for the four new gantry structures, which would be lifted into place using a crane, and two new concrete bunds for the shunt reactors. Switch gear and shunt reactors will be installed for the new 400kV circuits. The existing 400kV line would then be realigned during the 2027 planned outages.</p> <p>The approach taken to accommodate the existing bridleway adjacent to the Bramford Substation has been addressed in the response to Action Point 7 (AP7) in the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>
<b>iii. Stour Valley East CSE Compound</b>	
Overview	<p>As summarised in Section 4.7 of ES Chapter 4: Project Description [<b>APP-072</b>] the works at Stour Valley East CSE compound would comprise:</p> <ul style="list-style-type: none"> <li>• A permanent access road and bellmouth for the CSE compound would be installed.</li> <li>• Civils works to strip, prepare and level the compound would be undertaken, followed by installation of a stone pad.</li> <li>• Concrete or piled foundations would be installed, and the full tension gantries lifted into place using a crane.</li> </ul> <p>Underground cables would be installed to connect to the CSE compound. The CSE compound would be installed under a temporary scaffold to provide a weatherproof working area. Stour Valley East CSE compound would provide the interface between the new 400kV overhead line to the east and the new underground cables running west.</p>

## 3.2 Item 4.2 Main Site Compound at Leavenheath

Table 3.2 – Item 4.2 Main Site Compound at Leavenheath

Issue discussed	Summary of oral case
<b>i. Site selection of the main site compound</b>	
Overview of the site selection.	<p>As stated in paragraph 4.4.57 of ES Chapter 4: Project Description [<b>APP-072</b>], a main site compound is proposed off the A134 at Leavenheath, which would include the site offices, storage areas, parking and welfare facilities. This is also shown on the GAP [<b>APP-018</b>]. The main site compound would be temporary and would be removed with the site reinstated at the end of construction.</p> <p>As stated in paragraph 2.4.1 of the ES Appendix 4.1: Good Design [<b>APP-090</b>], this site was chosen due to its good connections with the local road network (A134) and as it is located roughly centrally within the Order Limits, which would reduce the journey distances for site staff to visit the work fronts. A main site compound would make it easier to coordinate car sharing for workers and also pick up/drop offs to local railway stations or other locations.</p> <p>The site chosen is a level agricultural field that has no obvious environmental constraints. For example, it does not lie within the Dedham Vale Area of Outstanding Natural Beauty; within or adjacent to a Site of Special Scientific Interest or ancient woodland; or within the floodplain. It is also located away from residential areas.</p>
Indicative compound design	<p>Detailed design will come from the main works contractor, but is expected to include a tarmac entrance, parking bays, modular cabins (no more than two storeys high), storage and welfare cabins and a stone yard area. The extent of the compound has been determined through the Applicant checking the size of the area needed with an early works contractors, in order to provide a suitable square meterage size.</p> <p>An indicative layout of the main site compound is provided in response to Action Point 8 (AP8) in the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>

### 3.3 Item 4.3 Construction Schedule

Table 3.3 – Item 4.3 Construction Schedule

Issue discussed	Summary of oral case
<b>i. Overview and differences with alternative scenario</b>	
Summary of the construction schedule.	<p>The construction schedule is shown in ES Appendix 4.2 – Construction Schedule [APP-091]. This includes enabling works, mobilisation, construction, commissioning and demobilisation. The key difference between the baseline schedule and the alternative scenario is that the GSP substation is constructed via the TCPA route in the baseline, whereas the GSP substation would be constructed pursuant the DCO (assumed to commence in autumn 2024) in the alternative scenario.</p> <p>The baseline schedule involves fewer interactions with third party utilities that may require outages and works around live plant and equipment. The phasing of the works as per the baseline schedule is covered under agenda item 4.1. The alternative scenario is considered to have inefficient construction sequencing. The alternative scenario worker number assumptions and parking provision is addressed in response to Action Point 10 (AP10) in the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>
Whether environmental considerations were identified within the construction schedule.	<p>The ExA asked whether environmental considerations such as archaeological strip map and sample were identified within the construction schedule. The Applicant noted that the main works contractor, who is yet to be appointed, would be responsible for developing the detailed programme; however, this would take into account the commitments made with the Outline Written Scheme of Investigation (OWSI) [AS-001], which outlines the need for archaeological investigations prior to construction. The OWSI also sets out the locations where mitigation is needed, which would not be required at all locations across the Order Limits. In addition, strip map and sample is usually undertaken at the same time the topsoil is removed as part of the enabling works.</p>
<b>ii. Construction hours</b>	
Overview of the construction hours.	<p>The Applicant confirmed that the core working hours requested in the draft DCO [APP-034] are required to meet the 2028 project delivery date. Delivery by 2028 is essential to ensure that National Grid can continue to make connections of generation without incurring significant constraint costs (which are ultimately borne by energy consumers), meet their transmission licence obligations and support the government's net zero ambitions.</p> <p>The programme will be further developed once the main works contractor has been appointed. In the meantime, a provisional programme has been prepared using standard industry working hours. The main works contractor would control and monitor the works to ensure they do not begin or finish outside of the proposed hours. Typical control measures would include site supervisors, near miss cards and a contact number for the public for reporting and monitoring.</p>

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CEMP – clarification on terms This is addressed in Action Point 9 (AP9) in the Applicant’s Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**). used relating to weather.

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### iii. Construction worker numbers

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Overview of the worker numbers ES Chapter 4: Project Description [**APP-072**], ates illustration 4.1, which illustrates the worker numbers as a profile over the anticipated construction schedule (based on the alternative scenario, which has higher worker numbers due to overlapping concurrent activities to meet the 2028 completion date.

The worker numbers are anticipated to be up to 350 workers per day at peak (Quarter 3, 2025) across the entire project (29km). The peak coincides with the bulk of the enabling works, which would be when temporary access routes, temporary compounds and temporary bellmouths are being constructed across the entire project. A peak workforce of 350 workers is not considered to be a high number for a major infrastructure project covering circa 29km.

There are approximately 180 workers per day on average across the construction schedule, and numbers reduce over the duration of the project as certain components are completed.

The Applicant confirmed that the term ‘worker’ includes staff and visitors to site, as well as anyone involved in the construction of the project.

For the alternative scenario, worker number assumptions, work and shift patterns and parking provision is addressed in response to Action Point 10 (AP10) in the Applicant’s Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**).

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## 4. Applicant's Summary of Case on Item 5: Construction and Operational Access and Traffic

### 4.1 Item 5.1 Transport Assessment

Table 4.1 – Item 5.1 Transport Assessment

Issue discussed	Summary of oral case
<b>i. Geographic scope of the Transport Assessment (TA) and construction traffic generated by the project</b>	
Scope of the TA	<p>The Applicant confirmed that the geographic scope of the TA [APP-061] included all construction routes used by construction vehicles and construction staff vehicles, and all Public Rights of Way (ProW) that are expected to be subject to temporary closures during construction, noting that any ProW expected to be subject to closures of less than two weeks were sifted out of the assessment. The Applicant referenced Figure 1 (study area) in the TA.</p> <p>Construction traffic generation is dealt with in two application documents:</p> <ul style="list-style-type: none"><li>• The TA [APP-061] – primarily covers traffic impacts on highway network performance: weekday network morning and evening peak hour.</li><li>• ES Chapter 12: Traffic and Transport [APP-080] – covers traffic impacts on walkers, cyclists and horse riders (WCH): peak day.</li></ul> <p>The assessment presented in both documents covers construction traffic, as operational effects on traffic and transport were scoped out. See paragraph 1.3.4 of the TA [APP-061] and paragraph 12.3.5 of ES Chapter 12: Traffic and Transport [APP-080]. The assessment also assesses the 'alternative scenario' as described in see ES Appendix 4.2: Construction Schedule [APP-091]. This is considered to be a reasonable worst case for traffic and transport as it assumes that more construction activities are undertaken concurrently compared to the baseline schedule.</p> <p>Traffic would occur throughout the construction programme (2024-2029) but is expected to peak in August 2025, which forms the basis for the assessment. Construction traffic generated by the project during the peak month is still expected to be relatively low compared with other major projects.</p> <p>In terms of peak construction vehicles during the network peak hours (8am-9am and 4pm-5pm) across the entire project:</p>

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- Table 6.2 in the TA [APP-061] reports hourly inbound and outbound trips in the last line. This states that there would be 32 light goods vehicle (LGV) trips (16 inbound and 16 outbound) and 35 heavy goods vehicle (HGV) trips (17.5 inbound and 17.5 outbound) across the full extent of project. There would be 67 in total (33.5 inbound and 33.5 outbound) applied to network morning and evening peak hours.

In terms of peak staff vehicles during the network peak hours (8am-9am and 4pm-5pm) across the entire project:

- Table 6.1 in the TA [APP-061] indicates that 32 vehicle trips would be generated in network peak hours, noting that staff vehicles are assumed to park on-site during the day, so no return journeys are generated in the same hour: There would be 32 inbound to site in the morning peak hour and 32 outbound from site in the evening peak.

In terms of peak daily construction vehicles across the entire project:

- Table 6.2 in the TA [APP-061] indicates a peak day forecast of 357 LGV movements (178.5 inbound and 178.5 outbound) and 387 HGV movements (193.5 inbound and 193.5 outbound)

In terms of peak daily staff vehicles across the entire project, these can be derived from Table 6.1 in the TA [APP-061] as follows:

- $528 \text{ staff (assumed in assessment)} \times 0.7 \text{ (proportion assumed to use crew vans)} / 4 \text{ (assumed average vehicle occupancy)} = 92.4 \text{ crew vans (minibuses) inbound per day in morning, outbound in evening}$
- $528 \text{ staff} \times 0.3 \text{ (proportion assumed to use cars)} / 1 \text{ (assumed average vehicle occupancy)} = 158.4 \text{ cars inbound per day in morning, outbound in evening}$

As to the figures of 528 staff when compared to the figure of 350 quoted in ES Chapter 4: Project Description [APP-072], the Applicant explained that this was because significant contingency has been added to the forecast for the purposes of assessment in the TA and ES, equating to approximately 50% uplift to the figures actually anticipated:

- For staff vehicles and construction vehicles combined, August 2025 was identified as the peak month. The monthly forecast at each access point (AP) was then reviewed over a 7-month period, 3 months either side of the August 2025 peak, and the highest forecast at each AP in that 7-month window was applied in the peak month forecast. This accounted for any programme movements that would align peak activity at different Aps and resulted in a significant uplift in the numbers used in the TA:
    - for example, the peak daily on-site staff estimate for the whole project in August 2025 is 350, but the result of the 7-month review meant that the TA assumes 528 staff are on-site during a peak day – this is a 51% uplift in expected staff numbers for the purposes of assessment.
  - Reference was also made to other contingency included in the forecast as follows:
    - the alternative scenario in ES Appendix 4.2 [APP-091] was used as the basis of the forecast, which assumes more concurrent activity when compared with the baseline schedule;
    - uplifts were also applied during the translation of peak monthly construction vehicle estimates to peak day, and during the translation from peak day to peak hour.
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The Applicant reiterated that multiple contingencies has been included and that it was highly improbable that the actual numbers would reach the forecast.

It was confirmed that the Strategic Road Network (SRN) is within the scope of the assessment. Chapter 7 of the TA [APP-061] was referenced as reporting traffic flow changes on the nearest SRN link to SRN junctions that construction vehicles are expected to use. It was noted that baseline traffic flow on the SRN is very high, and therefore in % terms the impact of the project was not expected to be significant. The A12 south of Copdock junction was cited as an example, where the project is expected to add up to 2% to baseline traffic flow and up to 4% to baseline HGV flow during peak hours under a reasonable worst case scenario.

The Applicant confirmed that construction routes include all roads on the LRN where the project is expected to add vehicles, including both routes used by construction vehicles and construction staff vehicles.

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## ii. Draft status of construction route strategy

Overview of the status of the construction route strategy	It was noted that the Applicant has not yet appointed a main works contractor and so at present it cannot confirm that the construction routes assumed for assessment would be the final routes used in practice. However, it was noted that many roads in the vicinity of project are narrow and unsuitable for construction vehicles and so in practice, there would be very limited flexibility to change the routes that have been assumed in the assessment.
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ES Chapter 12 and the update to GEART published in July 2023	The Applicant noted that the update to the Guidelines for the Environmental Assessment of Road Traffic (GEART) was published in July 2023, after the application for development consent was submitted. Therefore, the assessment presented in the application was based on the most up-to-date guidance available at the time. The Applicant has reviewed the updated GEART and confirmed that nothing in the update would change the assessment or the conclusions of the ES, and therefore no update is required to ES Chapter 12: Traffic and Transport [APP-080]. The Applicant offered to provide a written summary of the review.
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This is addressed in Action Point 11 (AP11) in the Applicant's Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**).

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Construction routes and CTMP [APP-180] – level of detail and approvals	The Applicant confirmed that the CTMP makes provision for access points to be subject to Local Highway Authority approval in due course and that it will respond to this matter following receipt of the Local Authority Local Impact Reports (LIR).
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## 4.2 Item 5.2 Temporary Traffic Regulation Orders

Table 4.2 – Item 5.2 Temporary Traffic Regulation Orders

Issue discussed	Summary of oral case
<b>i. Risk based approach</b>	
Overview	<p>The Applicant summarised the key points as follows:</p> <ul style="list-style-type: none"> <li>• Temporary access modifications (access points / bellmouth locations) would be needed for construction (see also 5.3 below);</li> <li>• Temporary access routes to reduce the need for, and impact of Temporary Traffic Regulation Orders (TTRO) on local roads; and;</li> <li>• Permanent accesses would be in place for operational maintenance but these would be expected to be at a very low frequency of access.</li> </ul> <p>The Applicant reinforced that the safety of road users, including drivers and passengers using motor vehicles and WCH, and the construction workforce is of the highest importance and a road safety audit (RSA) would be carried out.</p>
The proposed TTROs and associated risk	The Applicant confirmed the risk-based approach integrates sufficient flexibility to allow the main works contractor to bring forward effective and safe proposals. The duration of the TTRO's given is the worst expected case. Other additional routes are unlikely to require a TTRO.
<b>ii. Enforcing traffic and parking offences</b>	
Overview of approach	<p>County and District councils are both involved in setting and enforcing highway restrictions and are included in stakeholder liaison regarding agreements to ensure safe and effective delivery of the works. This will include development of the proposed Framework Highway Agreement, CTMP and other subsequent agreements or approvals.</p> <p>Monthly meetings are currently being held with the Local Highways Authorities, and additional meetings are planned to collate input on these documents, which will include enforcement issues.</p>
Provision of traffic management measures to ensure compliant driving behaviour	Respective bodies have been consulted, with the highways working group looking at proposals and impacts, both via civil parking and criminal enforcement.
<b>iii. Proposals to make the 30mph speed restrictions self-enforcing</b>	

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Approach	<p>It is normal good practice to aim for design and operation that are naturally self-enforcing, and that will be the approach as to the detailed design of public highway works. . The intention is the restrictions are naturally self-enforcing, this being through the work undertaken to date bringing forward orders set out, with an intention to have clear self-explaining routing for drivers. This would be complemented by communications regarding the effects on the road network.</p> <p>This is addressed in Action Point 12 (AP12) in the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>
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#### **iv. Impacts of road closures on emergency services**

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Approach	<p>In terms of forward planning, the emergency services will be consulted on planned closures, including potential for separate individual closures to affect one another, so that programmes can be adjusted to reduce impacts. In addition, the emergency services will be informed about planned and 'real time' closures including reactive closures or changes to programme resulting from emergencies or other events. The main works contractor will provide an emergency contact to assist with emergency access, on a 24/7 basis.</p>
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## 4.3 Item 5.3 Temporary and Permanent Measures to Access the Works

Table 4.3 – Item 5.3 Temporary and Permanent Measures to Access the Works

Issue discussed	Summary of oral case
<b>i. The Proposed Measures</b>	
Overview of the proposed temporary and permanent measures to access the works	<b>Temporary Accesses</b>
	In accordance with ES Chapter 4: Project Description [APP-072], temporary measures are required to facilitate access for the contractor to construct the works and will be removed on completion of the works. These include access points, temporary access routes and watercourse crossings. Where available and safe to use, existing access points, roads, and farm tracks have been utilised. Paragraph 4.7.5 also states that a temporary 7m wide stone access route would be constructed along the working area to provide access for construction vehicles, including cable drum deliveries. This would limit construction vehicles using the local road network – typical section shown on Design and Layout Plans Cable Working Cross Section [APP-027].
	<b>Temporary Access Point / Bellmouth</b>
	These may involve widening existing accesses or creating a new access point. In both cases traffic management measures will be required. The bellmouth (a widened entrance with visibility splays) would be marked out and the area excavated to a suitable depth. A geotextile membrane would be laid followed by a layer of stone, with a binder course laid on top to create the running surface. The top layer of the existing road surface adjacent to the bellmouth would be removed for the binder course to tie into. A typical design is found in Design and Layout Plans Temporary Bellmouth for Access [APP-030].
	<b>Temporary access routes</b>
These are required to access various parts of the project, including installation of the underground cables and the main site compound. Topsoil would be stripped from the area and stockpiled for future reinstatement. A geotextile would be laid followed by layers of stone to create the running surface. The running surface would be 4m to 7m in width. For some site accesses existing access tracks or trackway matting may be suitable. A typical interface between the access bellmouth and the temporary access route is shown in Design and Layout Plans Temporary Bellmouth for Access [APP-030].	
<b>Temporary Watercourse Crossings (Bridges)</b>	
Clear span bridges would be used to cross the Rivers Brett, Box and Stour (good practice measure W17 in the CoCP [APP-178]) to facilitate access for the works. As described in Section 4.4 of ES Chapter 4: Project Description [APP-072], local to the crossing point, topsoil would be stripped and the ground built up with stone and compacted. The bridge foundations/abutments, which may have concrete or piled foundations, would be set back from the edge of the river to avoid digging up the riverbank. A crane would then be used to lift the bridge into place. A typical design is found in Design and Layout Plans Temporary Bridge for Access [APP-031].	

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### **Temporary Watercourse Crossings (Culverts)**

As described in Section 4.4 in ES Chapter 4: Project Description [APP-072], approximately 20 watercourses and ditches will be crossed using temporary box or circular culverts. The watercourse would be temporarily dammed and over pumped for a short period (approximately two weeks) to provide a dry working area for construction. The culverts would be backfilled with clean stone or sandbags over the top of the box or pipe. A geotextile membrane would be placed on top and a layer of subbase laid to provide a running surface. A typical design is found in document Design and Layout Plans Temporary Culvert for Access [APP-032].

### **Permanent Accesses**

Four permanent access points and access roads are required from the LRN to the CSE compounds. There would also be a permanent access point to the GSP substation, to facilitate operation and maintenance of the new assets by the Applicant.

### **Permanent Access Point / Bellmouth**

These would be constructed in the same way as the temporary access point / bellmouth, with additional road surface layers, kerb lines and drainage, if required, to meet the relevant Highways Standards.

### **Permanent Access Roads**

These would be required to provide permanent access to new assets created as part of the project, such as the CSE compounds and GSP substation. These would be constructed in the same way as the temporary access routes, although may have a different width and make up of material, dependant on the design requirements and expected use.

### **Construction Programme for Temporary Accesses**

Paragraph 4.4.6 of ES Chapter 4: Project Description [APP-072] notes that the enabling works would include setting up the main compound and temporary access routes (including the temporary bridges, culverts and bellmouths). Paragraph 4.4.10 states that some temporary access routes (including any temporary bridges, culverts and bellmouths) would be in place for the duration of construction (up to four years) to maintain access to the working area and to reduce the number of HGV using the LRN.

The ExA asked follow up questions regarding the thinking and reasoning for the proposed selection of access routes for the temporary haul road network, whether proposed access points conform with design standards, and if there is sufficient land within the Order Limits to construct temporary ghost islands. These points are addressed in Action Points 13, 14 and 15 (AP13, AP14, AP15) in the Applicant's Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**).

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## 4.4 Item 5.4 Traffic Impacts on Walkers, Cyclists and Horse Riders

Table 4.4 – Item 5.4 Traffic Impacts on Walkers, Cyclists and Horse Riders

Issue discussed	Summary of oral case
<b>i. ProW Usage Surveys</b>	
ProW surveys on vulnerable users; the journey purpose of users (specifically commuting and recreational use); and whether users were connecting to employment or other services.	<p>The Applicant explained that some disaggregation of user data was available for the 2021 surveys (see post meeting note below) but that it was not possible to report definitively on the journey purpose of all ProW users. The disaggregation of users by whether they were walking a dog was given as an example of how the survey data could be used to make assumptions about the approximate proportion of leisure users on each route.</p> <p>The Applicant also noted that the WCH journey length assessment reported in ES Appendix 12.1: Traffic and Transport Significance of Effects Tables [APP-134] covered the impact of the project on ProW. It was noted that this assessment involved a desktop review of land use in the vicinity of each affected ProW using mapping and aerial photography, which when combined with survey data could be used to estimate the likely usage of ProW by different journey purposes.</p> <p>In respect of the topic of user characteristics to assess and whether a full and proper assessment has been made in accordance with guidance set out in the Design Manual for Roads and Bridges, this is addressed in AP16 of the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p> <p><b>POST MEETING NOTE:</b> During the hearing Mr Hale incorrectly referred to the disaggregation of 2021 PROW survey data by user characteristics (vulnerability, journey purpose, whether they were walking a dog etc). The Applicant can confirm that no disaggregation of data by user characteristics is available for the 2013 and 2021 survey programmes. Mr Hale was referring during the hearing to a further ProW survey programme undertaken in July 2023, which did disaggregate ProW users based on user characteristics.</p> <p>Suffolk County Council (SCC) commented that the data was not broken down by times of day or days of the week (it just notes weekday or weekend). The Applicant noted that the survey data demonstrates very low usage on all ProW across the Order Limits and that the date and time of users is available for the 2021 surveys – these were recorded for a 10-hour period between 8am and 6pm on the following dates:</p> <ul style="list-style-type: none"> <li>• Crossroads (north of Alphemstone) (PROW 58_11 &amp; PROW 58_30): Friday 3 September 2021 and Saturday 25 September 2021;</li> <li>• Millfield Wood (W-432/033/0): Wednesday 8 September 2021 and Sunday 17 October 2021;</li> <li>• River Box (W-432/020/0): Tuesday 7 September 2021 and Sunday 12 September 2021;</li> </ul>

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- Moat Lane (north of Lamarsh) (PROW 93\_8 & PROW 93\_7): Wednesday 1 September 2021 and Saturday 11 September 2021; and
  - Stour Valley (W-171/001/0): Thursday 2 September 2021 and Sunday 26 September.

The July 2023 survey programme referenced above was undertaken for a 12-hour period between 7am and 7pm. On all routes surveyed, the weekday survey day was Thursday 20 July 2023 and the weekend survey day was Saturday 22 July 2023. Further details on the 2023 surveys are provided in AP16 of the Applicant's Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**). The Applicant will respond further on this after seeing the detailed comments in the LIR from SCC.

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Other permissive paths and routes with public access, and open access land.	The Applicant confirmed that the assessment of impacts on ProW were reported in the ES Chapter 12: Traffic and Transport [ <b>APP-080</b> ], however it would come back to the ExA in writing on whether other routes had been considered. This is addressed in AP17 of the Applicant's Response to Issue Specific Hearing 1 Action Points ( <b>Document 8.3.9</b> ).
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PROW Management Plan and construction impacts on ProW.	<p>The Applicant noted that the measures relating to construction impacts on ProW are set out in the CTMP [<b>APP-180</b>].</p> <p>The Applicant noted that it considers the CTMP to be an accessible document, but that it would be reviewed.</p> <p>This is addressed in AP18 of the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>
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## 5. Applicant's Summary of Case on Item 6: Residual Impacts, Mapping and Securing Mitigation Measures, and the Management Plans and Other Control Documents

### 5.1 Item 6.1 Adequacy of the Submitted Register of Environmental Actions and Commitments (REAC) for Detailed Mapping and Securing of Necessary Mitigation Measures

Table 5.1 – Item 6.1 Adequacy of the Submitted Register of Environmental Actions and Commitments (REAC) for Detailed Mapping and Securing of Necessary Mitigation Measures

Issue discussed	Summary of oral case
<b>i. Summarise the outcome of EIA assessment in terms of significant residual impacts</b>	
Summary	<p>The Applicant has undertaken an EIA for the project. The outcome of the EIA is provided in the ES [APP-069 to APP-155] and is summarised in the Non Technical Summary [APP-068]. ES Chapter 17: Conclusion [APP-085] summarises the residual significant effects (i.e. after mitigation is employed) identified in the EIA. These are as follows:</p> <p><b>During construction:</b></p> <ul style="list-style-type: none"><li>• Short term adverse significant effects on the landscape and adjacent community areas resulting from large scale construction activities, particularly in Section E and Section G (the underground cable sections).</li><li>• Short term adverse significant cumulative adverse effects on landscape and views immediately around Bramford Substation from construction activities associated with East Anglia THREE (planning ID DCO-001) and Bramford to Twinstead Reinforcement. Also, short term significant cumulative adverse effects on landscape and views from construction activities associated with the Stoke by Nayland Golf Course development (planning ID APP-BMSDC-025) and Bramford to Twinstead Reinforcement.</li><li>• All residual construction effects would reduce to neutral once construction is complete and the working area is reinstated.</li></ul> <p><b>During operation:</b></p>

- Long term moderate adverse effect on LCA2 and views from community area at Burstall and Hintlesham associated with the introduction of the new overhead line;
- Long term moderate beneficial effect on Dedham Vale AONB, LCA5 (5c and 5d) and LCA7 and views from community areas at Chattisham, Lamarsh and Polstead associated with the removal of the existing 132kV overhead line and/or undergrounding of the 400kV overhead line;
- Long term significant adverse cumulative effect for landscape and visual immediately around Bramford Substation resulting from the combination of the Bramford to Twinstead Reinforcement, East Anglia THREE (planning ID DCO-001) (until year 20), and Norwich to Tilbury (planning ID DCO-019).

## ii. Securing of mitigation measures

Overview	<p>The embedded measures and additional mitigation (that would be employed to avoid or reduce a significant effect) are listed in Table 3.1 in the Register of Environmental Actions and Commitments (REAC) [<b>APP-179</b>]. The REAC forms Appendix B of the CEMP [<b>APP-177</b>] and is secured through Requirement 4 of the draft DCO [<b>APP-034</b>].</p> <p>Good practice measures are secured within the CoCP [<b>APP-178</b>], which forms Appendix B of the CEMP [<b>APP-177</b>] and is secured through Requirement 4 of the draft DCO [<b>APP-034</b>]. The good practice measures are elaborated on in the various management plans which comprise:</p> <ul style="list-style-type: none"> <li>• The CEMP [<b>APP-177</b>], which sets out measures to reduce effects on communities from noise and dust and also reduces effects on environment receptors including water and soil.</li> <li>• The CTMP [<b>APP-180</b>] which sets out measures to reduce effects on the road network and the adjacent communities.</li> <li>• The Material and Waste Management Plan (MWMP) [<b>APP-181</b>]</li> <li>• The Landscape and Ecological Management Plan (LEMP) [<b>APP-182</b>] outlines how vegetation would be protected and managed during construction and how any vegetation removed by the project would be reinstated following construction.</li> </ul> <p>All management plans are secured through Requirement 4 of the draft DCO [<b>APP-034</b>].</p>
Monitoring	<p>In terms of monitoring, paragraph 16.4.1 of ES Chapter 16: Environmental Management and Monitoring [<b>APP-084</b>] states that no specific monitoring has been identified as being required in relation to significant effects, as the additional mitigation proposed has been demonstrated to be effective on other large infrastructure projects.</p> <p>The LEMP [<b>APP-182</b>] sets out the need for other monitoring (site inspections) not covered by the EIA Regulations 2017 that would be undertaken.</p> <p>The Applicant noted that a two-stage process is sometimes undertaken, with initial plans being outline in nature, and the Applicant had sought to address this. The Applicant noted that it will respond further on this following a review of the LIR.</p>
Approach to documenting mitigation measures	<p>The Applicant noted that it was familiar with the Embedded Measures Schedule prepared by the Applicant in respect of its Yorkshire GREEN proposals.</p>



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The Applicant noted that in respect of the Yorkshire GREEN proposals, the Applicant had not prepared management plans for that application. Many of the measures contained within the Yorkshire GREEN Embedded Measures Schedule are contained within the Bramford to Twinstead Reinforcement management plans, therefore the Applicant was of the view that producing an Embedded Measures Schedule would duplicate the commitments made. The Applicant also noted that management plans are easier to share with the main works contractor, who would be familiar with these types of documents.

The ExA noted the possibility of a single reference point with regards to mapping all mitigation relied on in the ES and other application documents.

This topic is addressed in Action Point 19 (AP19) of the Applicant's Response to Issue Specific Hearing 1 Action Points (**Document 8.3.9**).

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## 5.2 Item 6.2 Use of Ambiguous Language in the Management Plans

Table 5.2 – Item 6.2 Use of Ambiguous Language in four of the Management Plans

Issue discussed	Summary of oral case
i. Explain use of ambiguous language in APP-177, APP-180, APP-181, APP-182	<p data-bbox="517 363 2089 491">The ExA noted that the management plans contain ambiguous language including terms such as: if appropriate; as may be appropriate; where appropriate; where applicable; could be; are likely; may require; where practicable; assume and anticipate. The ExA requested that the Applicant reviews the management plans to seek to remove these words and phrases. Where there is doubt, a range of probable outcomes should be provided.</p> <p data-bbox="517 515 2089 643">The Applicant is seeking a DCO that allows it to deliver the project in a way that meets its statutory duties. Part of this is maintaining an element of flexibility to allow a main works contractor, when appointed, to be able to undertake construction of the project in a way that is not unduly constrained. The flexibility in the management plans allows for a main works contractor to be able to use new methods or techniques to those outlined in the ES, as long as this does not lead to new or different significant effects.</p> <p data-bbox="517 667 2089 794">It is essential to maintain an element of flexibility in order to respond to changes that may be necessary during detailed design or construction. This could include new emerging techniques on the market which would further reduce environmental effects to those assessed within the application. There may also be other methods that deliver the project quicker or with less risk that do not result in new or different significant effects on the environment.</p> <p data-bbox="517 818 2089 978">The Applicant pointed to the Southampton to London Pipeline Development Consent Order, which included similar language in the final CoCP at Deadline 7 [REP7-028]. For example, their G13 '<i>Protection of earthworks and soil would be managed by methods such as covering, seeding or using water suppression where appropriate</i>'. Also, their G121 '<i>All refuelling, oiling and greasing of construction plant and equipment, would take place above drip trays and also away from drains as far as is reasonably practicable. Vehicles and plant would not be left unattended during refuelling. Appropriate spill kits would be made easily accessible for these activities</i>'.</p> <p data-bbox="517 1002 2089 1161">The Applicant noted that some statements in the existing management plans already offer alternative methods – for example, good practice measure B02 states that vegetation with the potential to support breeding birds will be programmed to be removed outside of breeding bird season where practicable. Where this is not practicable, vegetation will be checked by an ecologist for nesting birds prior to removal. Others relate to the application of certain conditions, for example good practice measure GG17 states that road sweepers will be deployed on public roads where necessary, to prevent excessive dust or mud deposits.</p> <p data-bbox="517 1185 2089 1259">However, the Applicant understands the point made by the ExA and will take an action to review the management plans in relation to the ambiguous language. Further details can be found in Action Point 19 (AP19) of the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>

## 6. Applicant's Summary of Case on Item 7: The Form and Content of the Draft DCO

### 6.1 Item 7.0 The Form and Content of the Draft DCO

Table 6.1 – Item 7.0 The Form and Content of the Draft DCO

Issue discussed	Summary of oral case
<b>i. Summary</b>	
The ExA's request for a high level summary of the draft DCO.	<p>The Applicant confirmed that the draft DCO [APP-034] has been drafted as a statutory instrument because (1) it includes compulsory purchase powers, and (2) it seeks to amend identified pieces of legislation. The approach and form of the draft DCO is based on an accepted standard form.</p> <p>The articles to the draft DCO were addressed by the Applicant in numerical order, providing a brief summary of their purpose and effect. The accompanying Explanatory Memorandum provides commentary on what each provision means.</p> <p>The Applicant noted that as well as the Applicant, UK Power Networks Holdings Limited and/or its affiliate Eastern Power Networks plc (UKPN) will also benefit from the draft DCO in respect of the UKPN works (meaning those works to UKPN assets or equipment forming part of the authorised development, including Work Nos. 8 and 11).</p>

## 6.2 Item 7.1 The Proposed Development

Table 6.2 – Item 7.1.2 Understanding Schedule 1 of the Draft DCO [APP-034] and its Relationship with the Work Plans [APP-010]

Issue discussed	Summary of oral case
<b>i. Work Plans, Sheet 1</b>	
Correlating the references shown in Schedule 1 of the draft DCO with those shown on the Work Plans – ExA proposal to add the subsections to the Work Plans.	<p>The Applicant confirmed that Schedule 1 contains a List of numbered works comprising the authorised development (Work Nos. 1 to 12). The approach taken in Schedule 1 is to label the principal works as simply as possible, as described in the introductory text to each Work No. The alphabetically labelled sub-sections set out the type of activities forming part of, or which are ancillary to, that principal work. The Applicant noted the approach followed in National Grid DCOs that had previously been granted (e.g. the Richborough Connection Project and Hinckley Point C Connection).</p> <p>The Applicant provided an explanation to the exA of how Work No. 1 is demonstrated on Sheet 1 of the Work Plans, with different colours used to distinguish removal and re-alignment.</p>
<b>ii. Work Plans, Sheet 12</b>	
Correlating some of the non-linear elements with the corresponding description in Schedule 1 – ExA proposal to include a reference to Work No. 3(b) on the Work Plan.	<p>While acknowledging the particular non-linear work shown is not explicitly labelled on Sheet 12 of the Work Plans, the Applicant, with reference to Article 5(3) of the draft DCO (dealing with LoD), confirmed that it understands the control to work as a matter of DCO drafting.</p> <p>The Applicant has considered this matter further post-hearing and further details can be found in Action Point 21 (AP21) of the Applicant's Response to Issue Specific Hearing 1 Action Points (<b>Document 8.3.9</b>).</p>
<b>iii. Temporary Construction Compounds</b>	
Inclusion of the temporary construction compounds in Work No. 12, but not on the Work Plans.	<p>The Applicant noted that this was deliberate, given that the main works contractor has not yet been appointed. The Applicant confirmed that there are no applicable LoD available for the temporary construction compounds. The location of the temporary construction compounds is restricted by the drawing of the proposed Order Limits and the practicalities of where these need to be located along the project route. The management plans will apply to the temporary construction compounds.</p> <p>The Applicant confirmed that the locations for the temporary construction compounds indicatively shown on the GAP [APP-018] were assessed on this basis within the ES, alongside a general consideration of where these may be relocated within the Order Limits across the project.</p>

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Each temporary construction compound not being separately identified and given an individual Work No.	The Applicant noted that the approach taken was designed to ensure sufficient flexibility for the as yet to be appointed main works contractor, to allow them to deliver the project in an efficient manner. The Applicant itself is under a statutory duty to deliver an efficient system. The Applicant confirmed its view is that the approach to environmental assessment remains robust and proportionate within this framework.
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Further provision under “Associated Development” in Schedule 1 for establishing site construction compounds.	The Applicant noted that “Associated Development” is a standard provision in DCOs, being a catch-all to allow for other matters not yet otherwise identified. Such drafting is included due to the potential consequences of these not being covered by the draft DCO [APP-034].
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The Applicant confirmed that any such further compounds would be minor and of short duration where need arises during the works, such as temporary lay down or storage areas.

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#### iv. Temporary Bridges

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Temporary bridges are shown on ES Figures [PDA-002], Sheets 10, 14 and 20, but not shown on the Work Plans or included in the relevant Work Nos.	The Applicant confirmed such works are minor, temporary, works, forming part of Associated Development under Schedule 1 of the draft DCO [APP-034].
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#### v. Ancillary Activities

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Ancillary activities required to facilitate the project listed at 1.1.6 of the Planning Statement.	The Applicant noted that not all of those listed are strictly “activities” and expressed that this is a consequence of the Planning Statement summary section seeking to provide an accessible overview, whilst the DCO itself will govern the authorised development.
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#### vi. Work No. 5

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Work No. 5 includes permanent vehicle access roads, but not the haul route from the A131.	The Applicant confirmed Work No. 5 relates to the permanent works in relation to the underground transmission line, whereas the haul route is a temporary construction facility. The only temporary construction facilities identified in a separate Work No. are the temporary construction compounds.
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## 7. Applicant's Summary of Case on Item 8: Any Other Business

### 7.1 Item 8 Any Other Business

Table 7.1 – Item 8 Any Other Business

Issue discussed	Summary of oral case
The Applicant made no oral submissions in relation to Item 8	

## 8. Applicant's Summary of Case on Item 9: Review of Actions Arising

### 8.1 Item 9 Review of Actions Arising

Table 8.1 – Item 9 Review of Actions Arising

Issue discussed	Summary of oral case
The Applicant made no oral submissions in relation to Item 9	

National Grid plc  
National Grid House,  
Warwick Technology Park,  
Gallows Hill, Warwick.  
CV34 6DA United Kingdom

Registered in England and Wales  
No. 4031152  
[nationalgrid.com](http://nationalgrid.com)