Bramford to Twinstead Connection Project

Proposed UKPN Connection and Substation

Consultation Feedback Report

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Version 2

This version of the report was prepared in response to requests from Braintree District Council and Essex County Council that their positions be clarified. It has involved amendments to paragraphs 5.4, 9.7 and 9.8.

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LIST OF APPENDICES

ABBREVIATIONS

AIS	Air Insulated Switchgear
AONB	Area of Outstanding Natural Beauty
CLA	Country Land Association
DCO	Development Consent Order
DPD	Development Plan Document
DSOR	Distribution System Options Report
EIA	Environmental Impact Assessment
ES	Environmental Statement
GIS	Gas Insulated Switchgear
GSP	Grid Supply Point
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
HIS	Hybrid Insulated Switchgear
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IET	Institute of Engineering and Technology
IPC	Infrastructure Planning Commission
MVA	Mega Volt Ampere
NG	National Grid
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OHL	Overhead Line
PILs	Persons with an Interest in Land
PINS	Planning Inspectorate
SGT	Super Grid Transformer
SSOAR	Substation Siting Options Appraisal Report
TEP	The Environment Partnership
UKPN	United Kingdom Power Networks

1 INTRODUCTION

Purpose of document

1.1 National Grid is currently undertaking a comprehensive pre-application consultation programme on the Bramford to Twinstead Connection Project (the Project). This feedback report forms part of the Stage 2 non-statutory consultation.

1.2 This Feedback Report presents the results of consultation on the findings of two reports published in February 2013 relating to the provision of a substation associated with the Project :

- Distribution System Options Report (DSOR);
- Substation Siting Options Appraisal Report (SSOAR).

1.3 The DSOR explains why National Grid and UK Power Networks (UKPN) consider that providing a new substation to the west of Twinstead Tee in Essex (south of Sudbury) would be the most appropriate means of providing replacement capacity in the electricity distribution network. This replacement capacity is required in order to maintain security of supply following the removal of a section of the existing 132kV overhead line between Twinstead Tee and Burstall Bridge which is required to accommodate the Project. The SSOAR considers the merits of alternative locations for such a substation.

1.4 The consultation ran from 11th February to 8th April 2013[1]. It invited the views of statutory and non-statutory consultees and of local communities in the vicinity of potential locations for a substation west of Twinstead Tee. Views were sought on the strategic options for providing replacement capacity, on the selection of the preferred strategic option involving the provision of a substation in this area, and on alternative locations for a substation within the area.

1.5 This Feedback Report sets out National Grid's response to the representations made in the consultation and how representations have influenced this decision and the selection of the preferred substation location to be taken forward to detailed design. Where appropriate, responses have been developed in association with UKPN.

1.6 In preparing this Feedback Report, consideration has been given to guidance and advice notes prepared by the Government and the Planning Inspectorate.

[1] Later extended for some consultees – see Chapter 4

Structure of the Feedback Report

1.7 This report is structured as follows:

- Chapter 2 – provides the background to the project and consultation to date;
- Chapter 3 – presents a summary of the appraisal of strategic options and of alternative substation locations, which formed the basis for the consultation;
- Chapter 4 – outlines the consultation arrangements;
- Chapter 5 – describes how the quantitative and qualitative analyses of representations were managed;
- Chapter 6 – sets out the representations received from "prescribed bodies", including local authorities, parish councils and statutory bodies and explains where representations received from the local community, including persons with an interest in the land, local bodies, Community Forums, Thematic Groups and the general public have been addressed;
- Chapter 7 – summarises the issues raised in representations from all parties relating to strategic options, National Grid's responses to them and how these have been taken into account in taking the Project forward;
- Chapter 8 – summarises, by study area, the issues raised in representations from all parties relating to the alternative substation locations, National Grid's responses to them and how these have been taken into account in taking the Project forward;
- Chapter 9 – concludes the report and identifies the next steps in the process.

2 BACKGROUND

Project development

2.1 In July 2011, National Grid announced its preferred corridor for developing a scheme for a 400kV connection between Bramford substation in Suffolk (west of Ipswich) and Twinstead in Essex (south of Sudbury). This corridor (Corridor 2) incorporates the route of a 132kV overhead line (the PCB line) comprising part of the electricity distribution system now owned and operated by the Distribution Network Operator UK Power Networks (UKPN).

2.2 The preferred corridor, Corridor 2, would involve removing the existing 132kV overhead line between Burstall Bridge, 2.5km to the south of Bramford substation, and Twinstead in order to accommodate the 400kV connection. Further works would then be required to ensure security of supply to the local electricity distribution network. In accordance with a commitment made in the preferred corridor announcement and the Statement of Community Consultation[2] (SoCC), National Grid has been undertaking further technical and environmental studies relating to the options for these works.

2.3 UKPN has undertaken further studies which considered a range of strategic options for maintaining local electricity supplies, including the construction of new 132kV overhead lines or underground cables between different points on its network as well as proposals for new substations. In July 2012 UKPN confirmed that a new substation to the west of Twinstead Tee would be its preferred option.

2.4 Eight strategic options were identified in the UKPN report[3]. National Grid has reviewed these options and a separate Distribution System Options Report[4] demonstrates how each option has been assessed in accordance with National Grid's guidelines on Options Appraisal. The report concludes that the strategic option to be taken forward

[2] National Grid : Bramford to Twinstead Tee Connection Project – Consultation Strategy : November 2011

[3] UK Power Networks : 132kV network reconfiguration to accommodate wider systems work : July 2012

[4] National Grid : Bramford to Twinstead Tee Connection Project - Distribution System Options Report : February 2013

for further appraisal is that of a substation to the west of Twinstead Tee. A separate report[5] considers potential locations for such a substation.

Consultation to date

2.5 The Stage 1 Consultation relating to the proposed route corridor for the Bramford to Twinstead Connection was carried out in October 2009. This stage of the consultation process invited the views of statutory and non-statutory consultees and members of the public living in the vicinity of the proposed works, on the four broad route corridor options which were identified at Stage 1 of the Project.

2.6 At this stage, comments were received in relation to the need for an associated substation. Some were sensitive to the need for, and potential impact of, a substation, noting for example that it would be of concern to residents in the immediate area. A small number of individuals expressed an opinion on where it should be sited, for example close to the A131 road or away from Castle Hedingham. The need for screening the substation was highlighted as an issue, and there were concerns that EDF (the previous Distribution Network Operator, now superseded by UKPN) might want to connect new 132kV lines to the substation. There were also concerns about noise during the operation of the substation and traffic disturbance particularly regarding the impact on local roads during construction.

2.7 National Grid responded that a report[6], made available at the beginning of the Stage 1 Consultation, had identified three potential locations and had considered technical and environmental constraints. The use of a GIS design would require a smaller footprint than an AIS design but would require a 13m high building to house the switchgear which could have a greater visual impact. The substation would not be permanently staffed, resulting in minimal traffic movements once the site is operational. National Grid emphasised the fact that if Corridor 2 was selected for the connection, the likely effects of a substation would be considered and further consultation would take place to identify the most suitable location. It noted that access studies had ruled out any location west of the A1071 near Castle Hedingham and the potential site at Rushley Green, as the required improvements would result in an unacceptable degree of harm to the character of the area.

[5] National Grid : Bramford to Twinstead Tee Connection Project - Substation Siting Options Appraisal Report : February 2013

[6] TEP : Bramford to Twinstead Connection Grid Supply Point Siting Study : October 2009

2.8 The Selection of Preferred Corridor report[7] committed to further studies being undertaken to determine the appropriate location of any new substation west of Twinstead Tee, to be subject to additional consultation at Stage 2.

2.9 In December 2011, National Grid held three public information drop-in events as well as a separate Councillor briefing event. These were not consultation events; however, as a result of these information events, some responses were received from residents. Concerns were raised in relation to visual impacts, noise, proximity to property, property values, environmental impacts and health.

2.10 Comments at the Councillor briefing event included a request that further consideration be given to the substation location at Rushley Green, which had been discounted due to harm to the character of the area. In 2012, National Grid instructed Wynn's Independent Transportation Consultants to assess each potential substation site (as reviewed in the 2009 Substation Siting Study) in more detail. Wynn's produced a report[8] which concluded that in respect of the study area at Rushley Green, the right turn from the B1058 at OS Reference TL 7926 3568 into Rosemary Lane would not be negotiable for the 14 axle girder frame trailer required. The swept path assessment drawings confirmed that third party land would be required to facilitate access and significant vegetation removal would be needed. Rosemary Lane would require widening as well as removal of some vegetation.

2.11 Additional comments received at the Twinstead Community Forum workshop included a suggestion to locate a substation in the M11 area, in the vicinity of Quendon, Ugley and Henham. Concerns in relation to the existing 132kV overhead line not being removed between the Tee and the substation were raised. Comments relating to complete undergrounding with no substation and the importance of views from, and historical significance of Castle Hedingham were also received.

2.12 National Grid has considered these comments. In relation to the suggestion of a substation in the M11 area, this has not been followed through to options appraisal because a substation in such a location would not provide the necessary security of supply. If the existing 132kV overhead line between Bramford and Twinstead Tee is dismantled, alternative arrangements have to be put in place in order to maintain the

[7] National Grid: Bramford to Twinstead Tee Connection Project - Selection of Preferred Corridor Report : May 2011

[8] Wynns : Schedule of highway works required to enable abnormal indivisible load access of 169te transformers to potential substation locations : 2012

current level of security of supply of the local network. Work to date undertaken by the Distribution Network Operator UKPN and National Grid indicates that a new substation to the west of Twinstead Tee is the optimum solution and UKPN has identified that the new substation has to be located between Twinstead Tee and Thaxted.

2.13 In the case of a substation west of Thaxted (for example in the M11 area), should one of the 132kV circuits feeding demand to the east need maintenance and therefore be out of service and the other circuit is automatically taken out of service due to a fault, approximately 140MW of demand would be lost. A substation in the Thaxted to Twinstead Tee area provides a greater degree of demand security because, if the same 132kV connection is lost, then power would continue to be supplied from the National Grid network.

2.14 Consultation on the Connection Options Report[9] took place from 29th May to 27th July 2012. At this stage, some comments were received in relation to the siting of a new substation in the Twinstead area. Representations queried whether the substation was necessary and whether it would need to expand in the future. Suggestions for alternative solutions, such as undergrounding from Bramford to Belchamp substation or from Bramford to Braintree were put forward. Comments relating to the cost of undergrounding compared to the cost of a substation were also submitted. Other concerns were raised such as visual impact on the surrounding landscape and residential properties, cultural, environmental and ecological harm caused by the siting of a substation, noise disturbance (given the quiet rural character of the area) and lack of transparency in the consultation process in determining where the substation could be sited.

2.15 The UKPN report considered a number of strategic options for maintaining connectivity with the local distribution network, including construction of underground 132kV circuits between Bramford and Twinstead Tee (with connection to Belchamp) and between Braintree and Rushley Green. The cost of underground cable options is presented in that report for comparison with the costs of a substation west of Twinstead Tee.

2.16 A specific consultation relating to substation options has now been held as reported in this document. Following the selection of a preferred substation site, the proposal will

[9] National Grid : Bramford to Twinstead Tee Connection – Connection Options Report : May 2012

be developed in greater detail and be subject to environmental impact assessment. The substation and associated works will be designed to minimise effects on the surrounding environment.

2.17 The substation would be designed to avoid any perceptible increase in background noise levels at the nearest residential properties. Detailed assessments will be provided in the Environmental Statement (ES) which will be based on models using proprietary software which assumes downwind propagation from source to receptor.

2.18 National Grid has considered the strategic options identified in the UKPN report published in July 2012 through a separate assessment of the potential impacts of each option, as reported in the DSOR. Where options have been discounted, an explanation has been given.

2.19 After having reviewed these options, taking comments into account, and confirming the preferred strategic option of a substation to the west of Twinstead Tee, National Grid has considered in more detail the siting and design of the substation and its effects on the local environment, in particular the likely effects on nearby properties and on the local road network. These considerations have been incorporated in the SSOAR and Chapter 3 of this report.

2.20 The consultation reported in this Feedback Report is part of the informal consultation carried out before the formal consultation on the proposed application for development consent.

3 OPTIONS APPRAISAL

Strategic Options

3.1 The DSOR appraised a number of technical options that were considered in the UKPN report. All of these options proposed connections to replace the 198MVA (summer) or 246MVA (winter) of transfer capacity which would be lost when the existing 132kV overhead line is removed. These options would maintain current levels of distribution network security and reliability to customers served by the Thaxted and Belchamp areas of the UKPN network.

3.2 National Grid reviewed the need case set out in the UKPN report and the analysis undertaken by UKPN with respect to 132kV connection options described within its report and carried out further analysis of the 132kV connection options in accordance with its own options appraisal methods.

3.3 National Grid provided further information on lifetime cost, technical, environmental and socio-economic issues, in line with its own options appraisal process.

3.4 The strategic options assessed were:

Option 1 - Do Nothing. This option is non-compliant with the standards by which UKPN is required to operate and was therefore not assessed further;

Option 2 - Replace 132kV circuits between Twinstead and Burstall Bridge;

Option 3 - Extension of the 132kV PCB overhead line from Twinstead;

Option 4 - 33kV Network Reinforcement. This option is non-compliant with the standards by which UKPN and National Grid are required to operate and was therefore not assessed further;

Option 5 - Reinforce Braintree Grid Supply Point (substation) and install new 132kV circuits to Rushley Green;

Option 6 - New Grid Supply Point (substation) at Twinstead;

Option 7 – New Grid Supply Point (substation) at Coggeshall;

Option 8 - New Grid Supply Point (substation) at Earls Colne.

3.5 The DSOR concluded that all strategic options except Option 6 required long lengths of either overhead line or underground cable and would potentially result in environmental and socio-economic effects over a wider area and greater costs. Given the nature of the areas over which the likely corridors would run (for all options other

than Option 6), overhead lines and underground cables would impact upon areas of national or local environmental importance and could have indirect effects on local businesses and visitors to the area, although for the underground cable options, this would be temporary. The effects of a substation in Option 6 would be more localised. Whilst there would be no particular technical difficulties with any of the strategic options, Option 6 would require the least additional system reinforcement works. Of all strategic options, Option 6 also has the lowest capital and lifetime costs.

3.6 The proposed option of a connection at a substation to the west of Twinstead Tee replaces almost identically the capacity lost through the removal of the 132kV circuit between Twinstead Tee and Burstall Bridge. A single SGT at this location would be sufficient to supply demand in the area based on the current UKPN forecasts to 2021 and its current system running arrangements.

3.7 Of all strategic options, Option 6 (New Grid Supply Point at Twinstead) was considered to represent the most efficient, co-ordinated, and economical option, with limited environmental effects.

Alternative substation locations

3.8 In October 2009, TEP was appointed by National Grid to carry out an environmental and planning assessment of the viability of siting a new substation in this area. The purpose of the study was to examine the options for locating a new substation and to describe the environmental, transport and planning constraints affecting the choice of options. The study was undertaken using desk-based information supplemented by site visits and used a number of documents to establish the baseline criteria for assessing feasibility and defining the significance of environmental constraints. These included National Grid's environmental guidance including its Schedule 9 Statement under the Electricity Act 1989[10], National Grid's 'commitments when undertaking works in the UK – Our stakeholder, community and amenity policy'[11], and the 'Horlock Rules'[12].

[10] Electricity Act : 1989 ch 29

[11] National Grid : Commitments when undertaking works in the UK – Our stakeholder, community and amenity policy : February 2010

[12] National Grid : Guidelines on Substation Siting and Design (The Horlock Rules) : March 2003

3.9 Eight study areas were identified:

1 – Butler's Wood and Waldegrave Wood

2 - Delvyn's Lane, north-west of Castle Hedingham

3 - 132kV 'Diamond crossing' at Rushley Green

4 - At the intersection of the A1017 and the 400kV line north of Colne Valley Farm Park, Castle Hedingham

5 - West of Jeckyll's Farm to the north of Little London

6 - North of West Wood

7 - West of West Wood

8 - Existing low voltage substation at Boyton End

3.10 After assessing the eight study areas, three were shortlisted for further investigation:

1 – Butler's Wood and Waldegrave Wood: being close to a main road and having natural screening;

2 - Delvyn's Lane, north-west of Castle Hedingham: being well screened and close to the existing overhead lines;

4 - North of Colne Valley Farm Park, Castle Hedingham: being close to a main road and in an urban fringe location.

3.11 A fourth study area at Rushley Green was shortlisted as part of the 2009 study but later discounted as further investigations[13] identified difficulties in accessing the site for the delivery of the transformer.

3.12 For the purposes of the SSOAR, the shortlisted study areas were called Study Area A (north of Colne Valley), Study Area B (Delvyn's Lane) and Study Area C (Butler's Wood and Waldegrave Wood). One potential location was identified in Study Area A, five in Study Area B and four in Study Area C. National Grid considered technical, environmental, socio-economic and cost factors in its appraisal of each location.

3.13 The option which was considered to be the least environmentally constrained was Location C2. This is because overall it would have the least impact on the landscape character of the area, visual amenity, ecology and the historic environment. This

[13] Wynns : Abnormal Indivisible Load Investigations and Route Inspection : November 2009

option would also be the least constrained from a technical perspective and have one of the shortest access roads of all options and the shortest of the options within Study Area C. In terms of local economic activity, there was a slight preference for Location C2 over the other options within Study Area C. The capital cost of Location C2 was also shown to be the lowest of all locations.

3.14 National Grid therefore put this option forward for consultation as its preferred location for the siting of a substation.

4 CONSULTATION ARRANGEMENTS

Stage 2 Statement of Community Consultation

4.1 Consultation on the proposals for a substation west of Twinstead Tee forms part of the Stage Two Consultation programme. The SOCC set out how National Grid proposed to carry out that consultation. The SOCC was prepared in consultation with Babergh District Council, Mid Suffolk District Council, Suffolk Coastal District Council, Braintree District Council, Suffolk County Council and Essex County Council and takes account of their comments. It has also been informed by relevant government guidance.

4.2 The SOCC identified three important issues which are fundamental to informing the detailed connection design. These are:

- a commitment to consider the merit of undergrounding along each section of the route[14];
- the selection of a preferred corridor route around Hintlesham, either Corridor 2A or 2B[15];
- the selection of a preferred substation site west of Twinstead Tee.

4.3 The objectives of the Stage Two Consultation activities are:

- to engage and consult publicly on the issues relevant to route alignment, in accordance with best practice consultation processes;
- to engage and consult on other related project issues;
- to facilitate consultation feedback to inform National Grid's decisions;
- to ensure National Grid delivers a compliant, robust consultation programme to support its application for Development Consent;
- to communicate National Grid's role in providing infrastructure to support the UK electricity market and the provision of future low carbon generation.

[14] Addressed in the Connection Options Report : May 2012

[15] Addressed in the Study Area AB Preferred Alignment Report : February 2013

Substation consultation programme

4.4 The substation consultation ran for eight weeks from 11th February to 8th April 2013. This was later extended to 30th April for some consultees. A letter inviting these consultees to comment was sent on 17th April 2013 and a copy can be found at Appendix I. Representations received after the closing date, but before the finalisation of the present Feedback Report have been considered and incorporated in the report.

Prescribed bodies

4.5 Schedule 1 of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009[16] sets out those bodies who should be consulted under section 42(1)(a) of the Planning Act 2008[17]. These bodies have also been contacted during the current informal consultation stages. Those prescribed bodies who were consulted on the substation proposals are set out in Appendix B.

Local authorities

4.6 Those local authorities which should be consulted for the purposes of section 42(1)(b) of the Planning Act 2008 are set out in section 43 of the Act. The local authority administrative areas principally affected by the proposals are those of Essex County Council and Braintree District Council. Option 2 also affects the area administered by Suffolk County Council and Babergh District Council. All these authorities have been consulted throughout the informal consultation period.

4.7 Local authority officers at Essex County Council were contacted initially by phone on 1st February and then by e-mail on 4th February in order to arrange a meeting.

4.8 On 5th March, a meeting was held with representatives from Essex County Council to discuss Option 5.1.2 which proposed reinforcement at Braintree Substation and an underground cable to Rushley Green (see Chapter 6 of the DSOR).

4.9 Kevin Fraser from Essex County Council and Emma Goodings from Braintree District Council were sent hard copies of the DSOR and SSOAR on 11th February 2013. A briefing was also held with Essex and Suffolk County Councils on 5th March .

[16] Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 : SI 2009 – 2264 as amended

[17] Planning Act 2008 Ch29

Statutory bodies

4.10 The three relevant statutory advisers to the Government are English Heritage, the Environment Agency and Natural England. Because of a delay in sending them copies of the DSOR and SSOAR, the consultation period was extended and they were asked to respond by 30th April 2013.

Parish Councils

4.11 Each of the Parish Councils (see Appendix A) was sent a letter on 11th February providing details of the consultation events. They were then contacted by letter inviting them to a Parish Council briefing either on 11th or 14th March 2013 (see Appendix G). Representatives from Wickham St Paul Parish Council, Twinstead, Little Henny, Great Henny and Middleton Parish Council, Gestingthorpe Parish Council and Great Maplestead Parish Council attended the briefings. Castle Hedingham Parish Council was contacted by telephone on 18th February, 20th February, 27th February and the briefing was given to them on 6th March. Bulmer Parish Council was also briefed on 4th April 2013.

Other prescribed bodies

4.12 Each of the other prescribed bodies in Appendix B was sent a letter with links to copies of the DSOR and SSOAR held on the project website. The three statutory consultees (English Heritage, Environment Agency and Natural England) were also contacted by telephone. The consultation period was also extended for these bodies and they were asked to respond by 30th April 2013.

Persons with an interest in land

4.13 Those categories of persons with an interest in land who must be consulted with under section 42(1)(d) are set out in section 44 of the Act. At this informal consultation stage (and given the state of development of the project) it is not possible to identify all such interests. However, the owners and occupiers of land within the substation study areas were identified. A letter was sent to all of these parties, alerting them to the consultation and inviting them to respond by one of the recognised ways (see paragraph 4.24). Where individuals met with the company's land agents and raised issues concerning the potential effect of the project on their land or operations, these were noted and fed back to the project team.

Local Community

4.14 Consultation with the local community has involved both local bodies (including the interest groups established in response to the project) and local residents and businesses, using a variety of contact methods and media.

Local bodies

4.15 National Grid has consulted with a number of other bodies and individuals who are not prescribed bodies as defined in Schedule 1 of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009. It is good practice to seek the views of those with particular interests in the local area.

4.16 Those local bodies who were sent letters with links to the DSOR and SSOAR on the project website are listed in Appendix C. The consultation period was also extended for these bodies and they were asked to respond by 30th April 2013.

Community Forums

4.17 At the start of Stage 2, Community Forums were established in September 2011 to enable direct consultation with representatives from affected communities and stakeholders who have expressed interest in active participation in the consultation process.

4.18 National Grid set up four Community Forums (Hintlesham/Chattisham, Hadleigh, Polstead/Dedham Vale and Twinstead) made up of representatives from local parish councils, community groups and local residents along the preferred corridor and independently chaired.

4.19 The Twinstead Community Forum met on 21st March, Polstead and Dedham AONB Forum met on 28th March, Hadleigh Forum met on 3rd April and Bramford and Hintlesham Forum met on 4th April, and all were briefed by the National Grid team. Issues raised were recorded and considered by the project team.

Public Drop-in Sessions

4.20 Public information events were held in February and March 2013 to provide an update on the project and to give the public an opportunity to view and comment on the substation proposals.

4.21 These events, which were attended by 211 people in total, were held at the following venues:

- Gestingthorpe Village Hall – 21st February 2013, 2pm -8pm – Attended by 45 people;
- Wickham St. Paul Village Hall – 28th February 2013, 2pm – 8pm – Attended by 63 people;
- Castle Hedingham Memorial Hall – 6th March, 1.30pm – 6.30pm – Attended by 103 people.

Public Information

4.22 A consultation zone was established, extending 1km around each of the three sites (see Appendix H) and a consultation letter was sent to residents within this zone on 11th February 2013. A Project Newsletter was published on 18th February 2013 which confirmed the need for a substation and advised that National Grid are assessing suitable sites was directly mailed to all properties (residential and businesses) and all parish councils included within the wider consultation zone for stage 2 consultation (whether all or in part), with all being invited to continue to participate in the on-going public consultation.

4.23 The DSOR and SSOAR were available on the project website on 11th February 2013 and made available at the following locations:

- National Grid, Company Secretariat Office, 1 – 3 Strand, London, WC2N 5EH (Opening Hours: 08:30 to 16:30 Monday to Friday);
- Braintree District Council, Causeway House, Braintree, Essex, CM7 9HB (Opening Hours: 09:00 to 17:30 Monday to Thursday and 09:00 to 17:00 Friday);
- Essex County Council, County Hall, Market Hall, Chelmsford, Essex, CM1 1QH (Opening Hours: 08:30 to 17:30 Monday to Friday and 08:30 to 17:00 Saturday);
- Local libraries:
    - Great Cornard Library;
    - Hadleigh Library;
    - Halstead Library;
    - Suffolk CC Mobile Library Service covering Mid Suffolk;
    - Essex Mobile Library Service covering Twinstead, Great Yeldham, Alphamstone, Halstead, Wickham St. Paul and The Hedinghams.

4.24 Representations were invited to be made in a number of ways:

- by email to bramford-twinstead@uk.ngrid.com;
- by writing to the freepost address at Freepost National Grid Connections;
- by completing feedback forms distributed at consultation events;
- by filling out the comments form on the project website www.nationalgrid.com/bramford-twinstead;
- by telephoning 0800 377 7340.

5 RESPONSE MANAGEMENT

5.1 Copper Consultancy, who manage the consultation process for National Grid, logged the representations into the stakeholder tracker system. Dialogue by Design was then commissioned to analyse and summarise the representations received in response to the substation consultation. Representations received in letters, emails, telephone conversations, the completed feedback forms, or through other mechanisms were typed into the analysis database verbatim, to facilitate analysis and to ensure consistency when interpreting issues. This analysis was used to ensure that all issues raised in representations were captured for consideration by the project team.

5.2 Quality assurance procedures were put in place to ensure representations were properly coded, captured and analysed. The categorisation of representations is shown in Appendix F.

5.3 During the period of the Consultation, 133 representations were received through different response mechanisms. The table below gives a breakdown of the type of representation received.

Representation type	Count
Email	41
Letter	9
Telephone call	7
Online comment	7
Feedback form	59
Feedback form with attachment	5
Null representation	5
Total	**133**

5.4 Of the responses above, One hundred and twelve were received from members of the public. No representations were received in support of Options 2, 3, 7 or 8. Twenty

five representations were received in support of the preferred strategic Option (Option 6). Forty nine representations were received in support of Option 5.1.2. Other public representations (the remaining 38) showed no particular preference.

5.5 Of the representations received which were in support of a substation west of Twinstead Tee (Option 6), two representations showed a preference for the substation to be located at Location A1, no representations showed a preference for the substation to be located in Study Area B and 23 representations were in support of a substation at Location C2.

5.6 Five representations which favoured Option 5.1.2 stated that if a substation were necessary, Location C2 would be preferable.

5.7 A petition of 176 signatures, co-ordinated by the Chairman of Wickham St. Paul Parish Council was also received. The petition objected to the siting of a substation at Location C2 and suggested that reinforcement at Braintree with an underground cable to Rushley Green (Option 5.1.2) should be taken forward.

5.8 Representations were received from Essex County Council, Suffolk County Council, Braintree District Council, Mid-Suffolk District Council and Babergh District Council. All of these representations stated a preference for Strategic Option 5.1.2.

5.9 All of the three statutory consultees, English Heritage, Natural England and the Environment Agency have responded. Their responses are summarised in Chapter 6.

5.10 At the end of the consultation period, the project team had regard to all of the representations from the local community and statutory and local bodies, both the quantitative data analysed by Dialogue by Design and the qualitative information in the form of issues raised by all parties during the consultation period.

6 REPRESENTATIONS FROM PRESCRIBED BODIES AND LOCAL BODIES

6.1 This chapter of the report summarises the representations from prescribed bodies. National Grid's responses to the issues raised by all parties, including the local community, are considered in Chapters 7 and 8. Cross references to the main responses are provided by the paragraph numbers in brackets. Some representations repeated comments that were made in response to the scoping report[18].

Local authorities

Essex County Council (ECC)

Comments relating to the DSOR

6.2 Essex County Council's representation[19] stated that the reinforcement of Braintree GSP and a new underground cable connection to Rushley Green (Option 5.1.2) was its preferred option. It identified a number of advantages, including:

- The potential to remove additional sections of existing UKPN 132kV overhead line and the benefits this would bring to the landscape, communities and attractiveness to visitors, particularly in the context of the sensitive and culturally significant landscape in the Stour Valley and the ambition to extend the AONB designation [7.43];
- The opportunity to utilise existing electricity infrastructure at Braintree which is within an urban context rather than developing a new location in rural north Essex [7.46];
- The Braintree option would be a more 'future proof' option if two transformers were needed [7.48];
- The 132kV underground cable connection could be largely accommodated in carriageway, minimising impacts on landscape character and hedgerows, but recognising that any disruption to the County Road Network should be kept to a minimum [7.40, 7.42].

6.3 It noted the need for a cable connection to avoid carriageway works at Galleys Corner and effects on Transport Related Policy Areas in the draft Braintree Site Allocations

[18] National Grid : Bramford to Twinstead Tee Connection Project – Environmental Impact Assessment Scoping Report: February 2013

[19] Representation dated 8th April 2013

and Management Policies DPD. It suggested ways in which environmental resources could be avoided, including the use of HDD to avoid impacts on watercourses and vegetation. Requirements for archaeological investigations were set out [7.40, 7.41].

6.4 Other points raised in the representation included :

- Any option to be progressed should not be made on cost grounds, but should take a balanced approach including environmental and socio-economic factors. There is a need to balance the relatively short term impacts on the highway network, which can be managed and mitigated, against the lifetime impact of new major electricity infrastructure in a highly sensitive and culturally significant landscape [7.37];
- Concern that the DSOR was published alongside the SSOAR and has not been widely publicised in order that the relevant communities can consider all options [7.6, 7.7];
- Continued approach to socio-economic matters is insufficient. National Grid has not considered or factored in the appreciation of the natural and historic beauty of the area and clear links between the visual quality of the environment and the potential for tourism [8.22];
- National Grid has placed great emphasis on cost and relied on 'judgement' to determine whether social, environmental and economic impacts of overhead line measured 'qualitatively', warrant the use of undergrounding. More work is required to actually 'quantify' the disbenefits of the proposed scheme and whether these exceed the additional cost of undergrounding and other options [7.10];
- Willingness to pay is an important and valid counterweight to NG's overriding cost arguments and should be considered appropriately [7.14];
- The description of the National Grid proposal is not clear and could lead to the need for a revised EIA Scoping to be undertaken prior to submission of the DCO [7.8];
- Further clarification sought on the removal of the redundant 132kV overhead line west of Twinstead Tee [8.3].

Comments on the SSOAR

6.5 Essex County Council's representation questions the assumption that effects of a substation would be localised at Location C2 given the potential impact on future

AONB designation, its cultural significance and the historic and visual landscape which attracts many visitors. It considers that Location C2 would be located "at the gateway to landscapes of high cultural significance". It is concerned that the decision making process has been overly influenced by the fact that Location C2 requires the least system reinforcement works of all options and has the lowest capital and lifetime costs.

6.6 In relation to Location C2, concerns were raised about :

- The effect on the tranquillity of protected lanes, particularly Old Road and Watery Lane [8.67];
- Potential damage to Old Road from construction vehicles [8.67];
- Traffic movements through Halstead town centre, a conservation area [8.68];
- The need for landscaping and habitat creation to improve connectivity between the woodlands [8.54];
- The need to protect the existing woodland with a minimum distance of 15m between the woodland edge and any structure [8.54];
- The need for appropriate archaeological investigation, including historic woodland features [8.61].

6.7 ECC welcomed pre-application discussions on highways issues and identified various issues relating to the design of access points and traffic management arrangements upon which it sought further discussions. It agreed that the A1017 is unsuitable for the delivery of the transformer to Location A1 and that remedial works to permit this could cost in the region of £1m. Detailed highways considerations were raised in respect of the other locations.

6.8 With regard to Study Area A, ECC had concerns about the effects on the setting of heritage assets including Hedingham Castle, on archaeological remains, on the Colne Valley Railway visitor attraction and a long distance walk. It agreed with much of National Grid's assessment of landscape and visual impact for both Study Area A and B [8.38, 8.39, 8.61].

6.9 With regard to Study Area B, ECC had concerns about the effects on Delvyn's Lane and Special Roadside Verges and about the amenity impact on nearby properties at Parkgate Farm and Pannells Ash Farm. It noted that there were opportunities to significantly enhance existing habitats as part of any substation proposal [8.47, 8.48].

Braintree District Council

6.10 In its representation[20], Braintree District Council raised the general point that the consultation period should be much longer especially as Parish Councils only meet once a month [7.7].

Comments on the DSOR

6.11 Braintree District Council supported the non-selection of all options involving significant lengths of overhead lines and new pylons. It considered that an underground cable connection between Rushley Green and Braintree was the best option and that this should be investigated further. In relation to that option it considered that:

- further investigation of the detailed route of an underground cable could ensure archaeological assets are protected and where necessary avoided [7.40];
- habitat loss could be largely prevented by the more extensive use of underground drilling or boring techniques and through detailed routing. Wildlife friendly working methods could be employed and therefore biodiversity is not a major constraint [7.40];
- the DSOR does not provide adequate reasons why this option has been discounted other than on cost grounds – sufficient information on environmental impact therefore needs to be presented [7.40].

6.12 Other points raised in the representation included :

- All options are technically viable and therefore the complexity or otherwise of the scheme should not be a consideration [7.28];
- The consultation has been focussed on the communities affected by the substation proposals and there has been minimal opportunity for communities subject to alternative strategic options to be consulted. This could compromise National Grid's ability to respond to the requirements of Section 37 of the Planning Act [7.6];
- The DSOR largely ignores willingness to pay studies [7.14];
- Impacts of a new substation in terms of the landscape will be severe and concentrated on very rural parts of the District – a landscape valued for its beauty and its historical and cultural significance [7.39];

[20] Representation dated 8th April 2013

- Recent decisions from the Planning Inspectorate and the High Court agree that the countryside and rural locations such as land to the west of Twinstead Tee are entirely inappropriate for major new electricity infrastructure [7.32].

Comments on the SSOAR

6.13 Braintree District Council considered that if a substation were the only option, Location C2 would be preferred, although set back further from the main road. For this location it considered that:

- More extensive native tree planting would be required and would join Waldegrave and Butlers Wood together providing an effective wildlife corridor between the sites [8.57];
- During construction, measures to avoid impacts on protected habitats should be put in place, the permanent access road should be located underneath the existing line to allow maximum space for screening and extensive screening would be required to the west of Location C2 to mitigate views from Wickham St Paul [8.54, 8.57];
- It is not acceptable to cross Old Road Protected Lane and routing must be shown not to damage the historic banks and ditches of the protected lane which is irreversible [8.67, 8.68];
- There were concerns about transportation of the main transformer, particularly on the town of Halstead, and Braintree District Council requested to be kept informed of likely routes [8.68];
- The Wynns report has little detail about street furniture, hedgerows and trees that would be affected and there are concerns about historic buildings along narrow roads in Halstead considering width, weight and likely vibrations of vehicles [8.68].

6.14 In relation to the other study areas, Braintree District Council considered that:

- Study Area A is the most exposed of the three locations and would be close to the main road, residential properties, the Colne Valley Railway and the villages of Castle Hedingham and Great Yeldham [8.34];
- The Council do not support a substation within Study Area B and believes it is entirely inappropriate. Study Area B is an exposed location with little screening. A substation in this location would adversely affect Parkgate Farm and Pannells

Ash Farm, impact on tourism and the rural economy, damage trees and verges and require a long access across open countryside [8.45, 8.48, 8.49].

Other local authorities

6.15 Suffolk County Council[21], Mid Suffolk District Council and Babergh District Council[22] supported the submissions of Essex County Council and Braintree District Council.

6.16 Suffolk County Council has, however, made the following additional points:

- National Grid would have benefitted from consulting on the DSOR in advance of announcing its preferred strategic option, rather than the current sequencing which may raise the perception that National Grid is consulting on a predetermined outcome [7.6,7.7];
- The Substation Siting Study 2009 downplayed the possibility of reasonable alternatives to a substation. It stated that in order to provide the necessary capacity and security of supply, the location of the new GSP has to be between Twinstead Tee and Thaxted. Subsequent reports indicate that this is not the case – it is, to a greater extent cost that has dictated that the substation option is preferred [7.5, 7.6, 7.12] ;
- The 2009 report also cited the removal of redundant pylons west of Twinstead Tee but this is now uncertain [8.3];
- Concerns that judgements on alternative options are made with significant emphasis on cost, ignoring evidence of long term disbenefits [7.37];
- It is important to consider alternative connection options and not just substation options [7.5];
- The Environmental Statement will need to be clear as to why the substation option has been chosen having regard to the environmental impacts of it compared to alternatives [8.33];
- National Grid will need to consider how the potential impacts of the development as a whole will be affected by the connection option combined with the proposed overhead line/cable development [8.33].

[21] Representation dated 8th April 2013

[22] Joint representation dated 10th April 2013

6.17 Suffolk County Council, Mid Suffolk District Council and Babergh District Council all remain of the view that the whole route of the Bramford to Twinstead Tee Connection should be underground [7.10].

Other Prescribed bodies

English Heritage

6.18 English Heritage [23] did not comment on the strategic options assessed in the Distribution System Options Report. In relation to the consultation on the siting of the substation, English Heritage has, on balance, concurred with the conclusions in the SSOAR that Location C2 would result in the least impact on the landscape character of the area, visual amenity and historic environment. English Heritage also commented that whilst there will inevitably be a degree of harm caused, the level of harm will be less than substantial, and in accordance with paragraph 134 of the National Planning Policy Framework (NPPF), it considers the measures proposed for its mitigation to be satisfactory.

Environment Agency

6.19 The Environment Agency[24] submitted no comments in relation to the strategic options assessed in the DSOR. It commented that it was generally satisfied with the results of the assessment and that the majority of issues fell outside of their remit. The Environment Agency also commented that in relation to Study Area A, if this were brought back into consideration, the Flood Risk Assessment would need to be submitted to them prior to the application for Development Consent being submitted [8.36]. It also stated that if the substation sites being considered were greater than 1 hectare, it would be useful to be consulted on the flood risk assessment for surface water drainage.

Natural England.

6.20 Natural England[25] raised no objection to the option of locating a substation west of Twinstead Tee and noted that, in the event that other options (notably Options 3, 5 and 8) were taken forward, a detailed consideration of the likely effects on landscape, visual amenity and biodiversity would be required. It did not object to the siting of a

[23] Representation dated 14th May 2013

[24] Representation dated 26th June 2013

[25] Representation dated 24th May 2013

substation at Location C2, but it recommended the careful design of visual screening and new planting around the substation to reduce effects on local landscape and views and to enhance biodiversity and green infrastructure benefits [8.54]. It commented on other mitigation measures to minimise the effects on the woodland and maximise benefits to wildlife. Natural England noted that it seemed unlikely that a substation at this location would have an adverse effect on the landscape character of Dedham Vale AONB, 7km to the east.

Other Bodies

6.21 The Country Land and Business Association (CLA) responded[26] that it is concerned about potential effects of the new substation on the landscape, tourism, local residents and road networks in the area. It also questioned the need for a substation and suggested a 132kV underground cable instead running from Burstall Bridge to Twinstead Tee, stating that this would be a cheaper option and have no long term impact on landscape, tourism, local residents or roads [7.20, 7.38, 8.8, 8.22].

Parish Councils

6.22 A list of the Parish Councils consulted can be found at Appendix A.

6.23 **Castle Hedingham Parish Council** objected[27] to all three substation sites, stating that the best option would be to site the substation at Braintree and cable underground. This Parish Council has also made the following points:

- The Braintree option has been discounted without full and transparent consideration [7.36];
- The use of mole-boring equipment would reduce cost and NG have made no offer to explore this [7.42];
- A thorough cost-benefit analysis of all options has not been carried out, including lack of Willingness to Pay for the Braintree option [7.14,7.16];
- There is no record of English Heritage being consulted about the impact on Hedingham Castle and its surroundings – as a Grade I listed Scheduled Monument, it deserves the same consideration given to Hintlesham Hall [8.16];
- Damage to the local landscape which is essential to local tourist economy, and could impact on local employment [8.8, 8.22];

[26] Representation dated 8th April 2013

[27] Representation dated 5th April 2013

- Impact on views, footpath walkers, Hedingham Castle, noise and property values [8.8, 8.14, 8.15];
- Two lanes already severely damaged by heavy equipment involved in recent pylon work and surface of an ancient bridleway destroyed [7.30];
- Mitigation through screening by trees and planting takes time to grow and so any visual impact will only be reduced in 50 – 100 years if at all [8.9];
- Transport assessment of all three sites is overoptimistic and Halstead will suffer badly from construction traffic [8.68].

6.24 **Bulmer Parish Council** commented[28] that the same criteria has not been used to assess National Grid's preferred site as the criteria applied to other options. Listed buildings, archaeology, protected lanes, ancient woodland and protected wildlife sites should have rendered Location C2 unsuitable due to impact on amenity, scheduled monuments, because of woodland or listed buildings [7.3, 7.5, 8.52, 8.53, 8.61, 8.68].

6.25 This Parish Council has highlighted the fact that this area is famous for its views painted by Gainsborough and Constable, and suggests that the proposal to site a substation in any of the three locations would be contrary to Braintree planning policies and ignores the habitats of woodland birds, bats, barns owns, brown hare, deer and badger [8.29, 8.54, 8.69, 8.72].

6.26 **Wickham St Paul Parish Council** supported[29] the following:

- The findings and recommendations of Stour Valley Underground (SVU);
- The submission made by Wickham St Paul, Twinstead and Gestingthorpe Women's Institute;
- The petition submitted by the residents of the Parish of Wickham St Paul.

6.27 This Parish Council also commented that Location C2 is virtually selected by default and would have little or no benefit but considerable detriment compared to the Braintree option. The Parish Council believe that the environmental impact of National Grid's preferred option has not been fully considered, including noise (insufficient consideration given to continual noise over transient noise) and wildlife, as well as

[28] Representation dated 8th April 2013

[29] Representation dated 8th April 2013

insufficient weight being given to property price degradation and the local economy [8.26, 8.54, 8.56, 8.57].

6.28 **Great Yeldham Parish Council** considered[30] that Option 5.1.2 is the best option for reconnecting the local 132kV network for UKPN. It also commented that if a substation is shown to be the only option, Location C2 is preferred.

Issues raised at Council briefings

6.29 Three Parish Council briefings were held at Wickham St. Paul, Bulmer and Gestingthorpe as well as a County Council briefing at Essex CC and a District Council briefing at Braintree DC. A number of issues/questions were raised at these briefings, including:

- Whether there is a plan B if these plans are rejected [8.32];
- Design of the 132kV sealing end [8.7];
- Health effects associated with substations [8.24];
- Whether Study Areas A and B have definitely been discounted [8.17];
- Whether there would be any merit in coordinating an underground cable option to Braintree with the on-going broadband installation across Essex [7.49];
- The timescales for the project and the time taken to build a substation [9.23];
- The effects that underground cabling would have on the environment [7.40];
- Whether Parish Councils will have a direct input into the enforcement of landscaping measures [8.13];
- The substation is not essential and the cabling option from Braintree must be looked at again and taken forward [9.12 et seq];
- Concern that proposals are not for local people but about delivering a proposal that will get consent following process set out in the Planning Act [8.53];
- Concerns that a substation would have a harmful impact on the environment including noise, impact on the wildlife at Butlers Wood - in particular the badger and deer population, loss of trees at Butlers Wood and the visual impact of a substation at Study Area B on Castle Hedingham. Concern was also expressed about the screening proposed being ineffective and views to the naked eye being more prominent [8.52, 8.54, 8.59];

[30] Representation dated 11th April 2013

- Whether the substation will be required before the 132kV line can be removed and whether the change over of supply from the 132kV line to the substation would be instantaneous and would there be any loss of electricity supply [8.4];
- Concern about UKPNs plans to expand in the future in this area and about references to the removal of the 132kV line as being of 'minor significance' [7.33];
- Question the costs published for undergrounding the connection from Braintree to Rushley Green and the costs for undergrounding the whole 400kV connection. The additional cost of a substation should not be a deciding factor as the cost is insignificant when compared to the whole scheme [7.22, 7.23, 7.24, 7.25];
- Question what level of detail is used when preparing cost and if costs were going to continue to fall [7.13];
- Whether there is a formula agreed with Ofgem for underground costs and for what should be placed underground [7.13];
- Questions regarding studies that have been undertaken to ensure that transformers can reach the selected locations and where the transformer will be coming from [8.25];
- Halstead Town Council should be consulted in relation to traffic movements [8.25, 8.68];
- Concerns were raised regarding the timings of the consultation and it was felt that Parish Council briefings should have taken place before the public exhibitions and held jointly with District and County Councillors [7.7];
- Whether it is necessary for NG to buy the land they are building on [8.30];
- There are on-going issues with the current refurbishment, i.e. mud on roads, humming wires, sagging wires and damaged verges [7.30].

Local Bodies

6.30 **Stour Valley Underground** (SVU) prepared a representation[31] which they state presents an argument and evidence to support Option 5.1.2 of the DSOR. SVU believes that this option is more coordinated, efficient and is economically preferable as well as delivering the most significant amenity and socio-economic benefits of all options.

[31] Representation dated 8th April 2013

6.31 SVU made the following comments in relation to the consultation process:

- Consultation documents are erroneous and misleading, including costings and undermine any determination of preferable solutions [7.3, 7.4, 7.5, 7.6];
- Consultation had preconceived outcome [7.4, 7.5];
- Consultation showed in detail a site (A1) which had already been discounted but did not show the reinforcement of Braintree which has been the communities' clear preferred option since mid-2012 [7.6];
- Consultation was poorly organised with NG failing to engage with all parishes that are affected by their proposals early enough [7.7].

6.32 SVU made a case in support of Option 5.1.2 of the DSOR including that:

- A new substation would use only two thirds of its potential output – a waste of capacity [8.2];
- A new fully integrated SGT at Braintree would allow excess capacity to be used to provide future proofing and increase system security – therefore the efficient and coordinated solution [7.45];
- Braintree can easily accommodate up to 2 further SGTs along with their associated switchgear in an environmentally acceptable and well screened location beside the A120 and therefore has the capacity to absorb them without significant amenity detriment [7.45];
- The delivery of an SGT to any of the proposed substation locations would have a high impact on the road system. The four lane A120, however, runs directly beside Braintree substation and therefore would not suffer the problems of rural roads [8.68];
- Option 5.1.2 along with the removal of 30 pylons offers significant improvements to visual amenity [7.11, 7.40];
- Location C2 is at the gateway to a culturally significant landscape to the north. Unnecessary pylons and infrastructure would have a negative economic impact on tourism [8.22].

6.33 SVU also cast doubt on the costings of options which can be summarised as follows:

- Due to mark-ups from Distribution Network Operators (DNOs) and contractors, the quotes given are more than double the real cost and decisions are therefore skewed due to cost differentials [7.18].

- The specification for the new substation options was scaled back from 2 SGTs to 1 because 2 would cost a similar amount to many of the other options including 5.1.2, particularly if the DNO margins were stripped out of all options [7.15, 7.22, 7.23];
- Costings and other factors have been massaged to add weight to the case for a substation in north Essex which is NGs preferred option, and SVU speculate that NG wish to gain a foothold in this area for further expansion [7.16];
- SVU contend that the costings and options appraisal are skewed to support NG's preferred option and costs have been highly inflated [7.17, 7.18, 7.19, 7.20].

6.34 The following general points were also made:

- Optioneering around the substation has been flawed and under developed [7.3];
- National Grid has exhibited double standards in respect of the importance of removing 132kV pylons (by headlining the importance of removing pylons from Burstall Bridge to Twinstead Tee but then arguing that removing 30 through the selection of the Braintree option was not significant) [7.11, 8.3];
- National Grid has contrived to overload the communities and local councils by consulting on the substation at the same time as the responses to PINs on the scoping report were required [7.8].

6.35 The SVU representation presents a number of figures which indicated where new transformers or switching stations could be located as well as an option summary chart indicating that Option 5.1.2 would be the most appropriate option.

6.36 **The Colne Stour Countryside Association** objected[32] to the siting of a substation at Butlers Wood and the refusal to remove the redundant 132kV pylons. The Association strongly supports the option of reinforcing Braintree Substation and providing underground cabling to Rushley Green and states that the correct analysis of the UKPN needs case would show this as the preferred option. They also support the detailed case for the Braintree alternative as set out in Appendix 1 of the SVU response [7.44].

6.37 **Hedingham Heritage Society** commented[33] that Study Areas A and B are of Special Landscape Value and are themselves tourist attractions. A substation would seriously

[32] Representation dated 8th April 2013

[33] Representation dated 7th April 2013

affect the landscape, ecological diversity, visual importance and enjoyment of the countryside. They are concerned that Location A1 is on a floodplain and a substation at Study Area B would result in harm to listed buildings including Hedingham Castle. Hedingham Heritage Society also commented that all sites are important wildlife areas and whilst Study Area C has some location advantages, a substation here would still impact upon the landscape. Reinforcement at Braintree is their preferred option [8.11, 8.12, 8.13, 8.36, 8.38, 8.43, 8.52, 8.54].

Petition

6.38 A petition of 176 signatures was submitted which stated that the residents of Wickham St Paul do not wish to have the proposed new substation built so close to the parish in the preferred Location C2 between Butler's Wood and Waldegrave Wood; and that they believe the existing site in Braintree should be used and cable put underground.

Addressing the representations

6.39 The feedback from the local community (the general public, persons with an interest in the land, local bodies, community forums and thematic groups) is also addressed in this report. Chapters 7 and 8 set out the main issues and concerns raised by the local community and consultees (statutory and non-statutory) relevant to the strategic options and the substation locations respectively. The key issues are summarised and the response from National Grid presented. Each section concludes by stating how the representations are being taken into consideration.

6.40 This report cannot present all the matters raised by consultees, many of which were extremely detailed in nature. However, the project team has considered all the representations received as part of the decision process and, where appropriate, this information is being fed into the design and assessment process.

7 ISSUES AND REPRESENTATIONS – STRATEGIC OPTIONS

7.1 This chapter sets out the representations received regarding the findings of the DSOR in general and the specific strategic options put forward by UKPN, together with National Grid's responses to them.

General

7.2 A number of issues were raised which were common to all options or to the overall process. These are outlined below:

Issues

Consultation

- The optioneering process has been flawed and under-developed;
- The complexity or otherwise of the scheme should not be a consideration as all options are technically viable;
- The alternative to a substation should have been properly explained;
- Concern that proposals are not for local people but are about delivering a proposal that will get consent;
- Concern that the DSOR was published alongside the SSOAR and has not been widely publicised in order that the relevant communities can consider all options;
- National Grid has focussed its consultation on the communities affected by the substation options and there has been minimal opportunity for communities subject to alternative strategic options to be consulted;
- National Grid would have benefitted from consulting on the DSOR in advance of announcing its preferred strategic option, rather than the current sequencing which may raise the perception that National Grid is consulting on a predetermined outcome;
- Some expressed the view that a lot of money had been wasted on what was considered to be "useless propaganda";
- The consultation period should have been longer as Parish Councils only meet once a month;

- National Grid should have engaged with the Parish Councils earlier. Parish Council briefings should have taken place before the public exhibitions and been held jointly with District and County councillors;
- Consultation showed a site which had already been discounted (Location A1) but did not show the reinforcement of Braintree which had been the communities' preferred option since mid-2012. No-one at the presentations would discuss this option;
- National Grid has contrived to overload the communities and local councils by consulting on the substation at the same time as responses to the Environmental Impact Assessment Scoping Report were required;
- Computer generated images should be available to everyone for this stage of consultation;

Undergrounding

- A contention that it was agreed years ago to put all electricity lines underground;
- Why underground cables are not being proposed when other EU states are able to provide them;
- Whether underground connections are less susceptible to power outages in extreme weather conditions;

Cost

- The extent to which people are willing to pay to avoid structures in the countryside;
- Whether an extra £28m on underground cables would be cost effective in the long term;
- Concerns that overhead lines and substations would be obvious terrorist targets and wiping out a substation would result in "trillions of pounds being lost";
- More work is required to actually 'quantify' the disbenefits of the proposed scheme and whether these exceed the additional cost of undergrounding and other options;
- The level of detail used when preparing costs and whether costs are going to continue to fall;

- Whether there is a formula agreed with Ofgem for underground costs and what should be placed underground;
- Whether the specification for the new substation was scaled back from two SGTs to one because two would cost a similar amount to other options including Option 5.1.2;
- Whether costings and other factors have been massaged to add weight to the case for a substation in North Essex to provide a foothold for National Grid/UKPN in this area for further expansion;
- An assertion that costs have been highly inflated - due to mark ups from Distribution Network Operators and contractors, the quotes given are more than double the real cost and decisions are therefore skewed due to cost differentials;
- The additional cost of a substation should not be a deciding factor as the cost is insignificant compared to the whole scheme;

Environment

- National Grid has not considered or factored in the appreciation and visual quality of the environment and the impact on potential tourism/socio-economic factors;
- National Grid had argued that the removal of 132kV overhead line associated with the Braintree option was not significant but had highlighted the removal of the 132kV overhead line between Burstall Bridge and Twinstead Tee;

Other

- The appropriateness of the countryside and rural locations such as land to the west of Twinstead Tee as locations for major new electricity infrastructure;
- As indicated in the Essex County Council response to the EIA Scoping Opinion Request, the description of the National Grid proposal is by no means clear, and could lead to the need for a revised EIA Scoping to be undertaken prior to submission of the DCO;
- The effects on roads, bridleways, verges, and signage where National Grid is currently working;
- Concern about UKPN plans to expand in future in this area.

Responses

Consultation

7.3 The optioneering process has been undertaken in a manner consistent with National Grid's guidelines on Options Appraisal[34] and is appropriate to the treatment of options in this case.

7.4 National Grid is developing a proposal for which it is seeking the approval of the Secretary of State. The development process is informed by extensive informal and formal consultation with the local communities and changes have been made in response to representations received.

7.5 Each of the compliant options specified by UKPN to ensure the security of supply have been explored in detail in the DSOR and full explanations of these options are presented within this report. National Grid and UKPN staff were available at all the consultation events and discussed all options (including Braintree to Rushley Green options) with interested parties.

7.6 Having reviewed the UKPN report and carried out its own assessment of the strategic options (reported in the DSOR), National Grid concluded that its preferred strategic option was to provide a substation west of Twinstead Tee. Its consultation therefore focussed on this option and primarily sought comments on the various locations for a substation. However, representations on the findings of the DSOR were also invited and were received as a result of which National Grid has back-checked and reviewed its preferred strategic option. The Substation Siting Study of 2009 concluded that Study Area A (including Location A1) should be taken forward for further assessment. It had not been discounted prior to the consultation taking place.

7.7 The consultation period ran for eight weeks from 11th February to 8th April 2013, which is in excess of the period for formal consultations required under the Planning Act. Those parish councils most likely to be affected by the proposals were contacted individually and a number of meetings and briefings were held with them to ensure that they understood the proposals and were able to discuss issues of concern. The timing of these events allowed adequate time for the parish councils to respond.

7.8 The consultation on the scoping report was undertaken by PINS and responses were received from the local authorities, several parish councils and other consultees. The issue of overlap was unavoidable given the need to maintain the project programme.

[34] National Grid plc. : Our Approach to Options Appraisal : August 2012

Other than the representation received from SVU, there have been no concerns raised in relation to consultation on the scoping report.

7.9 Computer generated images have been used during this consultation. 3D models have been produced for some of the substation options and at least one location within each Study Area is available to view on the project website. National Grid prioritised the production of 3D models for those substation locations which had the greatest merit in each study area, based on the findings of the options appraisal.

Undergrounding

7.10 Undergrounding may be considered appropriate in certain situations and there are many examples of, particularly lower voltage, lines being placed underground. Whether or not undergrounding should be adopted is considered on a case-by-case basis in the context of National Grid's statutory duties and taking account of the costs and benefits and the views of consultees. A similar approach is adopted by electricity utilities in other countries and other electricity utilities in the UK, and it is not the case that all cables are being placed underground in other EU states.

7.11 While some representations have suggested that connecting Braintree to Rushley Green with an underground cable would allow the removal of the 132kV overhead line between Rushley Green and Twinstead Tee, UKPN has indicated to National Grid that it intends to retain these assets. The assessment of options was carried out on that basis.

Cost

7.12 National Grid must be able to justify its proposed expenditure to Ofgem and the details of its proposal to the Secretary of State for Energy and Climate Change. In so doing, and with regard to undergrounding, the landscape and visual considerations outlined in Section 2.8 of National Policy Statement EN-5[35] and the comments of government about those considerations are relevant, as any development consent application will ultimately be judged against the relevant NPSs. The multi-stage optioneering process is designed to address those considerations and forms part of the justification process. The application for development consent which National Grid proposes to submit will reflect the outcome of this optioneering and its statutory duties to develop and maintain an efficient, co-ordinated and economical system of

[35] Department for Energy and Climate Change : National Policy Statement for Electricity Networks Infrastructure (EN-5) :July 2011

electricity transmission and to have regard to the protection of amenity. The Secretary of State offers no guidance on the extent of undergrounding which may be appropriate – each case is considered on its merits.

7.13 In late 2010, the IPC suggested to Government that an independent authoritative report on costs of underground and subsea transmission would be useful. This report, prepared by Parsons Brinckerhoff and endorsed by the Institution of Engineering and Technology (IET), was published in February 2012[36]. The costs of different technology options contained in the report are broadly in line with those that National Grid has used to date and has published when carrying out appraisal of options on current projects. There is no formula agreed with Ofgem for underground costs.

7.14 Issues of the willingness of the public to pay are matters for the Secretary of State and Ofgem. However, National Grid has recently concluded a high level survey to assess the public's attitude towards "willingness to pay" and the increases in their electricity bills that they would be prepared to pay to put existing electricity transmission lines underground. A copy of this report[37] can be found on the National Grid website.

7.15 For the purpose of the assessment in the DSOR, National Grid based the costs of each option on the cost of straight line routes for connections quoted in the UKPN report, adding, where appropriate, National Grid's own infrastructure costs, based on its recent contract experience. The costs quoted in the UKPN report were based on two transformers being installed for Option 6 and these costs were retained in the DSOR to maintain consistency between the two reports. As explained elsewhere, only one transformer will be required to replace lost capacity and the capital cost of National Grid works associated with Option 6 will therefore be lower than that quoted in the DSOR (£22.5m compared to £30.4m quoted in the UKPN report and DSOR). In addition UKPN works of up to £3.6m would be required.

7.16 The basis of the costings is clearly set out in the DSOR and is consistent across all the options. It is not possible to predict how future cost variations might affect the relative costs of options. The assertion that costs have been massaged to influence the selection of the preferred option is without foundation. Ultimately, all costs have to be justified to the regulator.

[36] Parsons Brinckerhoff : Electricity Transmission Costing Study : January 2012

[37] Accent : Consumer Willingness to Pay Research for National Grid : January 2012

7.17 The comparative costs of 132kV cabling quoted by Stour Valley Underground, relating to a scheme between Norwich and Earlham are contractor-only costs. The installation of such cables has other costs associated with it, apart from contractor costs. For example, the costs for such projects include network design, project management, corporate governance, financing, testing, commissioning, etc. These on-costs associated with projects also need to be recovered by infrastructure companies. Such on-costs would not be captured in a contractor's tender price. Any comparison also needs to consider appropriately rated equipment and quantity of circuits. The total unit cost of this 8.9km single circuit Norwich to Earlham scheme was approximately £1m/km. This is in line with the allowance for DNO undergrounding of £1.1m/km circuit length (2009/10 prices) quoted in Special Condition 6K of National Grid's transmission licence[38]. The 12km length of cabling for the scheme quoted on the Utility Infrastructure Providers (UIP) website included extensive cabling at three substations along the route. A cable connection between Braintree and Rushley Green would require two cable circuits which is estimated to cost approximately £1.8m/km.

7.18 Stour Valley Underground's statement that utilities just add a mark-up for profit is incorrect, as regulated industries have to demonstrate their on-costs through regulatory submissions. Both National Grid and UKPN are licensed utilities under the Electricity Act 1989 and are subject to regulation by the Office of Gas and Electricity Markets (Ofgem). The costs of the regulated activities of both National Grid and UKPN are scrutinised by Ofgem on a regular basis to ensure transparency and that excessive profits are not accrued.

7.19 The DSOR quoted the lifetime costs associated with each of the strategic options. In response to representations received, UKPN and National Grid have taken the opportunity to back-check and review the cost of those options upon which most specific comments were raised :

- Option 2 - Replace 132kV circuits between Twinstead and Burstall Bridge with underground circuits;
- Option 5.1.2 - 132kV Braintree – Rushley Green using underground circuits;
- Option 6 - New Grid Supply Point west of Twinstead.

7.20 The review confirmed that Option 2 has capital costs of £45.3m for the new cable circuits and a further capital commitment of £12.5m for future re-configuration of the Bramford to Lawford 132kV circuits, giving a total planned capital cost commitment

[38] Ofgem : National Grid Electricity Transmission Licence Special Conditions Consolidated Version 1st April 2013

for Option 2, of £57.8m. The capital cost of £103m quoted in the UKPN report and in the subsequent DSOR included £45.3m for switchgear replacement at Bramford. It is accepted that the cost of switchgear replacement is not attributable to the Bramford to Twinstead Connection project but represents UKPN Business Plan activity that, were Option 2 to be implemented, would be brought forward to allow a more co-ordinated approach to network reinforcement.

7.21 Option 2 did not include costs for undergrounding between Twinstead Tee and Rushley Green as it was assumed that it would use the existing overhead line operating at 132kV to supply Belchamp Grid from the Twinstead Tee onwards.

7.22 In respect of Option 5.1.2, National Grid has reconsidered the design proposed for additional Supergrid Transformers (SGT) at Braintree. Adding a third SGT at Braintree would give greater flexibility but analysis of power flows leads to the conclusion that the conditions necessary to justify this provision would be unlikely to occur. The existing configuration of the substation means that, by allowing for less flexibility and using a minimal mesh substation design, the capital cost of works (400kV and 132kV) at Braintree substation could be reduced from £32m to £20m. Under this scenario the capital cost of the option would be £50.4m.

7.23 Only one SGT is required to replace the capacity which would be lost by the removal of the 132kV overhead line between Burstall Bridge and Twinstead Tee. National Grid can only include, in its DCO application, those works which would be properly required to replace this lost capacity which is why a single SGT option has been developed and costed. As noted previously, the proposed single SGT substation for Option 6 would have capital costs for National Grid works of £22.5m and for UKPN works of up to £3.6m, giving a total site cost of £26.1m, compared to the £30.4m quoted in the DSOR.

7.24 For clarification, the costs associated with these options are set out in the table below.

Option	Capital Cost	Lifetime Cost
2	£57.8m	£63.3m
5.1.2	£50.4m	£57.8m
6	£26.1m	£27.6m

7.25 This shows that, in terms of lifetime costs, Option 6 (a substation west of Twinstead Tee) would be over £30m cheaper than the other options favoured in representations. Life time costs take account of the on-going costs of maintenance and distribution losses and Option 6 would therefore be the most cost effective strategic option in the longer term.

7.26 A representation asserted that damage to overhead lines or substations, resulting from terrorist action, could result in major financial losses being incurred. However, there is no history of significant terrorist threat or action associated with either overhead lines or substations in the UK. When damage occurs, invariably due to adverse weather or accidental damage, overhead lines can be repaired within days. By contrast, damage to underground cables, which occurs occasionally from excavators, heavy machinery or failures to cable joints, will typically take weeks rather than days to repair. The new substation would be run interconnected with the sites at Pelham and Wymondley and the system is designed such that the failure of equipment at one site would not cause the loss of supply to the system. In the event of damage to the infrastructure there would, therefore, be sufficient supply to prevent the suggested level of financial loss.

7.27 It is not possible to quantify all the effects of a proposal, whether positive or negative. For example, National Grid does not consider that effects on the environment from its proposals can be properly given a monetary value.

Environment

7.28 While all options are technically viable, it is important to consider the technical complexity of each as this will affect the infrastructure requirement and the cost and effects on the environment. The assessments contained in the DSOR considered effects on the environment, including landscape and visual amenity, ecology and heritage, and on local economic activity.

Other

7.29 National Grid does not foresee any requirement for generation connections at the site, and therefore the function of this site will be to provide secure supplies of electricity for homes and businesses in Suffolk, Norfolk and Essex. Any future expansion of the substation for demand purposes would be at the request of UKPN and would be subject to relevant consents being sought if a need arises. However, scope for expansion of the site is limited by design and as such large scale expansion of such a site is not foreseen. The proposed substation is designed to meet local demand from the distribution network and would not be appropriate for

accommodating new generator connections. This includes Location C2 where the available site area is also constrained by existing woodland.

7.30 National Grid is currently working on refurbishment of the 4YL overhead line which passes through the study area. The comments regarding National Grid's work in the area have been raised with the project manager for the refurbishment so that he can take any remedial actions that may be necessary. Works to the bridleway near Twinstead have been agreed with Essex County Council. This is not, however, connected with the proposals, the subject of this consultation.

7.31 The Scoping Report made it clear that a number of elements of the proposal remain subject to consultation. In its Scoping Opinion[39], PINS noted that "*the Applicant may find it helpful to undertake further discussions with the relevant consultees to inform the scope of the EIA once the decision on the location of the new substation has been announced*".

7.32 In the event that a substation forms part of the application for development consent, it will be for the Secretary of State to consider the extent to which the Project complies with national policy statements (NPSs) and to weigh this in the balance with local planning policies and other material considerations. The local planning authority is entitled to submit a Local Impact Report as part of this process, and it is anticipated that this is likely to address compliance with local planning policies.

7.33 The future plans of UKPN are a matter for that company to address and are not (and cannot) be subject to National Grid's application for Development Consent for its Bramford to Twinstead connection.

Other options

7.34 No detailed responses were received in relation to UKPN Options 2, 3 and 7 of the DSOR. Essex County Council commented that it would support Option 2 (an underground cable from Burstall Bridge to Twinstead Tee) but that it preferred Option 5.1.2. One representation was received stating that a substation at Earls Colne would not be preferable due to impact on the landscape. This is accepted and Option 8 was not considered to be an option that National Grid would take forward. The other responses received referred to UKPN Options 5 and 6 and these are considered below.

[39] The Planning Inspectorate : Scoping Opinion Proposed Bramford to Twinstead Tee 400kV Connection : March 2013

UKPN OPTION 5 – Reinforce Braintree GSP

7.35 Some issues were raised which related specifically to Option 5. These are outlined below:

Issues

Consultation

- Concerns that this option was not properly explained and that National Grid are unwilling to look at this option;

Cost

- Whether costs and technical difficulties have been misinterpreted regarding a direct underground connection to Braintree;
- The Braintree substation upgrade costs cannot be more than a new stand alone substation and Option 5.1.2 must therefore be designed to deliver wider benefits;
- Within a decade, the cost of both this option and Option 6 will be the same – don't be short sighted;
- The option has been assessed on financial grounds and should be assessed on impact on the environment instead;

Environment

- The visual cost and damage to the locality has not been properly assessed and National Grid should seriously consider the alternative of undergrounding the 132kV feed line from the Braintree sub-station. This would have the added advantage that the 132kV line between Twinstead Tee and Castle Hedingham could be removed leading to extra tourism as well as enhancing the agricultural property lying beneath it;
- Need to balance short term impacts on highway against lifetime impact on highly sensitive and culturally significant landscape;
- Environmental resources could be avoided by a cable connection, including the use of HDD to avoid impacts on watercourses and vegetation. There are also requirements for archaeological investigations;

Undergrounding

- A cable connection would need to avoid carriageway works at Galleys Corner and effects on Transport Related Policy Areas in the draft Braintree Site Allocations and Management Policies DPD;
- This option with an underground cable connection is the preferred option;
- The 132kV underground cable connection could be largely accommodated in carriageway, minimising impacts on landscape character and hedgerows, but recognising that any disruption to the County Road Network should be kept to a minimum;
- If the undergrounding of a 132kV cable is laid using a machine similar to that used for land drains, it would avoid the problem of different soil types and would be cheaper than digging trenches;

Other

- This is the only option which can be supported;
- An additional substation should be built at Braintree;
- A fully integrated SGT at Braintree would allow excess capacity to be used to provide future proofing and increase system security;
- Braintree can easily accommodate up to two further SGTs and associated switchgear in an environmentally acceptable location beside the A120 and has the capacity to absorb them without significant amenity detriment;
- Not only would an expansion of this substation be less visually intrusive than Option 6, but vehicular access is much easier and less intrusive;
- Whether there would be merit in co-ordinating an underground cable option to Braintree with the on-going broadband installation across Essex.

Responses

Consultation

7.36 Option 5.1.2 was considered in the DSOR to the same level of detail as other options.

Cost

7.37 The assessment was not restricted to financial implications but also covered technical complexities and the effect on local economic activity as well as the likely impact on the environment.

7.38 The DSOR provides both capital and lifetime costs. Paragraph 7.23 above explains that these costs have been reviewed by National Grid and UKPN which has resulted in a cost reduction for each option. The lifetime costs of Option 6 would be £30m cheaper than those of Option 5.1.2.

Environment

7.39 The environmental assessment can be found in the DSOR at paragraphs 6.15 – 6.38. While National Grid has a duty to have regard to the preservation of amenity and will seek to minimise the effect of its proposals on the environment, this must be balanced with its statutory duties to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

7.40 The assessment of Option 5.1.2 assumed that effects on environmental assets, including habitats and archaeological remains, could be minimised in part by locating the cables beneath existing highways and in part through careful routeing and appropriate construction techniques. Were this option to be taken forward, detailed studies would be needed to confirm the scale of such effects. It is possible that effects could be greater than stated in the DSOR. For example the cable route is known to cross an area where there is a high potential for archaeological remains. In an effort to minimise disruption to traffic (as requested in Essex County Council's representation) it may also prove more difficult to accommodate cables under highways than previously assumed, which could also lead to greater effects on ecology and archaeology.

7.41 The representation from Stour Valley Underground suggested that the environmental effects of a 132kV cable connection would be limited to that associated with a trench 0.5m in width. However, the construction swathe would be much wider than this, allowing for safe, managed excavations, free from the risk of edge collapse. The

easement width for a 132kV underground cable would normally be 7m. An extra sterilized zone of 1.5m either side to prevent deep rooted planting interfering with the operation of the cable circuit is also required. This would reduce the risk of fault and prevent further development which could prevent access to the infrastructure in the future. This would result in a 10m permanent swathe being kept clear. Additional land either side of this would be required temporarily for the manoeuvring of vehicles and stockpiling of materials during construction. The environmental effects would not therefore be limited to those associated with a 0.5m wide trench.

Undergrounding

7.42 The suggestion that mole (cable) ploughing could be used to install the 132kV cables is impracticable because of the number and capacity of the cables involved. National Grid has held a meeting with Scottish and Southern Energy along with their German contractor, who have been using cable ploughing for six years, to understand the technique involved and its potential for application on the Bramford to Twinstead Project. This has confirmed that the technique has only been successfully used over long distances at 33kV and below. No 132kV transmission circuits have yet been installed although further field trials at 132kV are planned for later in 2013.

7.43 Whether or not the installation of an underground cable between Braintree and Rushley Green would lead to the removal of the 132kV overhead line between Castle Hedingham and Twinstead Tee would be a matter for UKPN as part of its statutory responsibilities. UKPN has indicated that it intends to retain this infrastructure.

Other

7.44 It is noted that support for this option is conditional on the connection between Braintree and the 132kV overhead line near Rushley Green being made by underground cables.

7.45 There would be no need to build an additional substation at Braintree to accommodate this option. However, the existing substation at Braintree would need extensive modifications at both 400kV and 132kV to accommodate new assets. These modifications would be likely to include expansion of the existing compound. While the scope of these works would be greater than implied in the Stour Valley Underground representation, it could be accommodated on National Grid's landholding. This has not been in dispute.

7.46 Braintree substation is in an urban location and it is agreed that some further extensions could be accommodated without major environmental effects. The site

also has good access from the strategic highway network. These were matters taken into account by National Grid in its consideration of the strategic options.

7.47 National Grid can only include, in its DCO application, those works which would replace the capacity lost as a result of the removal of the 132kV overhead line between Burstall Bridge and Twinstead Tee. Any wider improvements to the electricity distribution system would be a matter for UKPN who would need to seek the necessary consents.

7.48 If a new transformer at Braintree were connected into the Braintree and Rayleigh group, its function and utilisation would be exactly the same as one located to the west of Twinstead Tee and connected into the Pelham and Wymondley group. In terms of future proofing and system security, this would not be a differentiating factor in the connection decision.

7.49 There would be no merit in coordinating an underground cable option with the on-going broadband installation because of technical and programme considerations and differing routeing requirements.

UKPN OPTION 6 - Substation west of Twinstead Tee

7.50 The representations relating to this option are considered in Chapter 8 below.

Influence on scheme design

7.51 No new information has been provided in representations which would cause National Grid or UKPN to change their views as to the preferred strategic option.

7.52 The only other option which obtained a degree of support was for an underground cable connection between Braintree and Rushley Green. In response to representations, National Grid has given further consideration to this option and has identified a lower cost solution for its associated works at Braintree substation. However, at £50.4m, the capital cost of this option would still be over £24m greater than that of the preferred option of a substation to the west of Twinstead Tee. An underground option would also be likely to have a harmful impact on archaeology and biodiversity over a wide area whereas the effects of a substation would be localised.

8 ISSUES AND REPRESENTATIONS – SUBSTATION LOCATIONS

8.1 This chapter sets out the representations received to the findings of the SSOAR in general and to each of the specific study areas and options put forward in that report.

General

Issues

Technical

- A new substation would use only two thirds of its potential output – a waste of capacity;
- The 132kV line between Twinstead Tee and the substation should be removed;
- Whether the substation will be required before the 132kV overhead line can be removed and whether there will be any loss of electricity supply;
- Whether the use of overhead lines and substations located in the countryside to transport renewable energy can be considered to be a green approach;

Environmental

- The preference for an AIS substation compared to a GIS substation on grounds of visual amenity and it being less intrusive;
- Uncertainty about the design of the 132kV sealing end;
- Concern that a substation in any location is inappropriate and will be a blot on the landscape – a landscape made famous by major English painters Gainsborough and Constable;
- The need for better planting and screening in all locations;
- Whether Parish Councils will have a direct input to landscaping proposals;
- Concern that any screening will be cosmetic and take many years to grow meaning views will be lost forever;
- Whether views of substations in 15 years time can be considered;
- Whether the substation could be dug down in order to reduce visual impact;
- Whether a substation would put stress on nearby trees;
- The potential impact on wildlife and woodland;

- A range of specific issues relating to impact on wildlife – the proposed characteristics of the landscaped area; mitigation measures for hedgerow loss; the need to encourage invertebrates; the provision of bat/bird boxes; whether the substation equipment repel wildlife;
- The effects of noise from the substation – humming and noise from lorries carrying building materials – and the need to take noise levels when there is a prevailing wind towards the nearby properties;

Consultation

- Whether English Heritage was consulted about the impact on Hedingham Castle and its surroundings – as a Grade I listed Scheduled Monument, it deserves the same consideration given to Hintlesham Hall;
- Whether Study Areas A and B have been discounted and whether they were only included to show that National Grid care about public opinion;
- A perception that National Grid is pitching one neighbourhood against another and that the public are continually treated with complete disregard;
- There has been an element of obfuscation in the way information has been presented and costs and equipment have not been well explained;
- The lack of visuals for underground options or changes to the substation at Braintree;
- Computer generated predictions can be adjusted to suit any argument;

Other

- The siting of the substation is of minor significance, it is the use of overhead lines which causes opposition;
- Potential harm to the Essex/Suffolk tourism industry;
- Why is Study Area A the only non-greenfield site when there are so many brownfield sites in the area?
- Concern about the health effects of substations;
- Uncertainty about where transformers originate from and the studies undertaken on routeing;
- Concern that damage could be caused to old buildings in Halstead and Sudbury from heavy lorries;

- The need for Halstead Town Council to be consulted on traffic movements;
- The effect of a substation on house prices;
- A concern that the substation site will be used in the future for the installation of telephone/communication masts, as has happened at other substations;
- Whether there is an opportunity to incorporate into the project some infrastructure for a faster broadband network;
- Concerns that the substation may be expanded in future to accommodate two transformers;
- The relationship with planning policy – inconsistency with the aims of the Braintree Core Strategy, Policies CS8 and CS9;
- A perception that residents in affected areas appear to just be an inconvenience and that National Grid hope over time that the eyesore will become part of the 'view' – once built it will be too late to do anything about it;
- Whether National Grid already owns land in the area and if it necessary for National Grid to buy land to build on;
- The timescales for the project, including the time taken to build a substation;
- The outcome if current proposals were rejected;
- The need for National Grid to consider how potential impacts of the development as a whole will be affected by the connection option combined with the proposed overhead line/cable development.

Responses

Technical

8.2 All assets on the transmission system have redundant capacity when there are no faults on the system, to ensure that when faults do occur, multiple settlements do not lose supply. It would be incorrect to assume that the new substation supplies only Belchamp and Thaxted. The system is designed to support all demand within that group including major settlements such as Stevenage and Bishops Stortford as well as supporting local supplies.

8.3 The section of 132kV overhead line between the Twinstead Tee and the proposed substation location is the property of UKPN. Whether or not it can be removed is a

decision for that company. UKPN has indicated to National Grid that it intends to retain the section of line. This is consistent with its published investment plan.

8.4 The section of 132kV overhead line between Burstall Bridge and Twinstead Tee will have to remain in place until the substation has been commissioned in order to maintain electricity supplies to the local area.

8.5 The SSOAR considered the need for connections between the substation locations and both the 132kV and 400kV networks. The former connection would be made by underground cables. The location options for the substation took into account the need to minimise the amount of additional overhead line infrastructure. Location C2, which is preferred, would not require any additional 400kV overhead line, although minor steelwork modifications would be required to the pylon arms together with downleads into the substation.

Environmental

8.6 It is agreed that an Air Insulated Switchgear (AIS) substation would have a lesser visual impact on the surrounding landscape than a Gas Insulated Switchgear (GIS) substation. National Grid proposes to adopt AIS as the basis for the design moving forward.

8.7 For all of the options, a 132kV cable sealing end would be located on a platform on a pylon, rather than in a separate compound.

8.8 Effects on landscape and visual amenity are recognised as important factors in determining the merits of different options. This was confirmed by representations during the Stage 1 consultation. For Location C2, the preferred option, the magnitude of effect (scale of change) on the landscape would be slightly less than other locations because of the enclosure of the site by mature woodland. The substation at Location C2 would benefit from a large amount of natural screening provided by the two woodland blocks to the north and south of the site. The nearest views of the substation would be from the A131 to the east (a 60mph 'A' road) and public viewpoints west of the substation are more distant. National Grid accepts that there will be some adverse effects on views, particularly in the first few years of construction. However, from most viewpoints the impact will be minimal, particularly after mitigation.

8.9 Screen planting will be effective before 15 years time but will become more effective as the planting grows. The 15 year period is a standard time period used in Environmental Impact Assessments. A certain proportion of more mature trees would

be used in mitigation, but young trees and shrubs are shown to establish more successfully and grow more rapidly and it is for this reason that a greater proportion of younger trees would be used. Further detail of the planting to be used will be considered further as part of the detailed landscape design. The details of planting proposals and habitat creation will be agreed with the relevant authorities. Any new infrastructure would be constructed so as to have as little impact on existing trees and vegetation as possible.

8.10 Some cut and fill is likely to be required to create a level platform for the substation. However, lowering the level of the substation to a significant degree, while reducing its visual impact, would introduce more complex drainage arrangements, would increase the risk of flooding of electrical equipment and would result in a requirement to dispose of many tonnes of topsoil and subsoil which would require numerous heavy goods vehicle movements in the construction period. It could also result in changes to the local water table with adverse consequences for nearby trees and woodland.

8.11 During the construction period a number of standard best-practice approaches would be used to avoid and minimise effects on ecology. These include:

- Root protection fencing to protect and avoid compaction of tree roots;
- Pollution control methods such as bunding around sensitive features;
- Vegetation clearance (where necessary) including sections of hedgerow will be undertaken outside the bird breeding season to prevent damage to nests or young.

8.12 Where detailed surveys identify the presence of protected species, appropriate licences will be sought from Natural England to allow works to commence. Any such licence application will be supported by a detailed method statement and construction works will proceed in adherence with any licence method statement. Based on current information such licensed mitigation approaches are likely to include installation of amphibian exclusion fencing and terrestrial clearance of great crested newts from ranging habitats within the construction area.

8.13 The design of the landscape planting and habitat creation measures will be developed taking into account representations from the public and consultation with the relevant statutory and local bodies as well as best practice guidelines.

8.14 Noise resulting from the substation has been assessed as part of the SSOAR according to the principles of BS4142, which indicated there was no difference between the sites on noise grounds once appropriate mitigation had been incorporated. Detailed

assessment will be provided in the Environmental Statement, but will be based on models using proprietary software which assumes downwind propagation conditions from source to receptor.

8.15 There may be some noise disruption from passing construction vehicles at some of the substation locations shown in the SSOAR. If the substation is sited at the preferred Location C2, access to the site would be directly from the A131, an existing major trunk road where construction vehicles are unlikely to result in a significant increase in the volume of traffic on that road and in associated noise levels.

Consultation

8.16 The views of English Heritage are reported elsewhere in Chapter 6 of this report.

8.17 A full and fair assessment has been made of the locations in all three study areas (A, B and C). These were chosen from a broader range of sites as they had the greatest potential for Abnormal Indivisible Load (AIL) access and were the least environmentally constrained. Views were sought on all these locations and locations in Study Areas A and B were not excluded from the outset.

8.18 National Grid takes consultation seriously and is committed to listening to the views of local people. When options are being considered it is inevitable that some options will affect some communities more than others.

8.19 The SSOAR presents both written and drawn information about the content of the scheme, the alternative locations and the technical and cost implications of each option. This information has been available throughout the consultation period on the project website, at all consultation events and other locations in the local area. Staff have also been present at the events to offer further explanation where required.

8.20 The computer aided visualisations shown at the drop-in events were created for information purposes and to help with understanding how the substation could be integrated into the landscape with mitigation planting in place. They were not intended to be the only source of information relating to the siting of the substation and National Grid have gone to great lengths to ensure that the proposals are clear and accurate, based on the latest design specification. The 3D visualisations were only carried out for Option 6. In providing the visualisations, National Grid hopes to inform people about how a substation development would look in the future. It accepts that some visual effects will persist in the longer term and its assessments acknowledge this.

Other

8.21 It is accepted that the proposed installation of overhead lines causes opposition. Such concerns have been considered and addressed in the Connection Options Report and the COR Feedback Report[40]. The assessment of options for the UKPN Connection and potential substation locations has taken account of the extent of overhead lines which would be required in each case.

8.22 An assessment of the effects on local economic activity, including tourism, was included in the assessment of potential substation locations in the SSOAR. The preferred Location C2 is considered by National Grid to have the least impact in terms of tourism given its location between two existing blocks of woodland and therefore its limited visibility. However, the difficulty of establishing, with any degree of certainty, cause and effect in this field is acknowledged.

8.23 Other than those sites included in the DSOR and SSOAR, no suitable alternative substation sites, including brownfield sites, have been identified by National Grid or any other body.

8.24 It is recognised that there is a general concern about the health effects of electric and magnetic fields associated with transmission infrastructure. National Grid designs all of its systems to be compliant with ICNIRP guidelines on exposure to electric and magnetic fields. The substation design will take these guidelines fully into account, whichever option is selected. An assessment of the potential impact of electric and magnetic fields will be included in the environmental impact assessment of the preferred connection design.

8.25 While the movement of the transformer would not pass through Sudbury, the delivery of other equipment or construction materials could be routed through Halstead and Sudbury. Before any vehicular movements take place, consideration will be given to locations where there may be potential for harm to historic buildings arising from temporary increases in traffic movements. Should such locations be identified, the relevant precautions will be put in place. The transformer would be delivered from Tilbury Docks via the M25, M11, A120 and the A131.

8.26 National Grid seeks to maximise the distance between any electricity infrastructure equipment and properties wherever it can. Compensation arrangements are set out in legislation, which is a matter for the Government. The relevant legislation provides

[40] National Grid: Bramford to Twinstead Connection Project: Connection Options Report: Consultation Feedback Report: October 2012

that those whose property will have National Grid equipment sited on or across it (e.g. if a pylon is located on the land or the conductors (wires) oversail a landholding) are entitled to compensation. National Grid works closely with any landowners on whose land its equipment is sited to negotiate compensation terms if this is appropriate.

8.27 The substations will not provide a base for commercial telecommunications infrastructure nor for enhancing the local broadband network.

8.28 The UKPN need case supports a single transformer in order to replace the capacity lost as a result of the removal of the existing 132kV line. Should UKPN determine at some point in the future that a second transformer may be required, then it would prepare a need case and consider options in the normal way. This may or may not support provision of a transformer at a substation to the west of Twinstead Tee. UKPN will need to obtain the necessary consents for future development of its infrastructure.

8.29 Planning Policy was taken into account in the assessment of sites. Chapter 5 of the SSOAR addresses compliance with policy and whilst many National Grid developments cannot always comply with all relevant planning policies, planning policy is a material consideration when assessing which option should be taken forward.

8.30 National Grid does not own any land in this area and would only acquire land if consent were granted. Where possible this will be done by agreement with individual landowners.

8.31 National Grid is currently in the informal stage of consultation. When this stage is complete, formal consultation on the proposed application for the wider project will be undertaken. Once the formal stage of consultation has been completed, National Grid will decide whether to make the application as proposed or to make changes to it in the light of consultation and other relevant considerations and then propose to submit an application for an order granting development consent to the Secretary of State. It is envisaged that, once submitted, it would take approximately 17 months for a decision to be reached. If consent were granted, it would take approximately 12 – 18 months for a substation to be constructed.

8.32 If for any reason, the proposal to provide a new substation was rejected by the Secretary of State, National Grid would need to re-assess other options in the light of the reasons given for rejection.

8.33 The Environmental Statement submitted with the application for Development Consent will report on the likely significant effects on the environment of the

development as a whole, including the proposed overhead line/cable development, substation and other ancillary development.

Study Area A – adjacent Colne Valley Railway

Issues

- Considered by some to be the second best option;
- This would be the preferred option as the area is already industrialised and a substation would make no difference to the number of visitors to the Colne Valley Railway as a lot of stations are in industrial type environments;
- Whether this is the most practical and economic choice;
- Concern regarding flooding as area has flooded on several occasions in recent years;
- Detrimental effects on main access roads into the village of Castle Hedingham;
- Potential harm to heritage and historic importance of Castle Hedingham;
- Substation would block out views of Hedingham Castle and would be harmful to landscape and visual amenity;
- Potential harm to tourist attractions of Hedingham Castle and Colne Valley Railway;
- Effects on visitors less important than effects on local people;
- Existing overhead lines are closest at this location;
- The weight restricted bridge appears to be the main reason for discounting this option but there are other possible routes, i.e. through Haverhill;
- If 120 tonne railway engines can be delivered, it should be possible to deliver transformers to the site.

Responses

8.34 The support for the option is noted. It is accepted that this location is close to other development in the Colne Valley and this was one factor which influenced its inclusion on the shortlist of potential substation locations.

8.35 Although this option would have one of the lowest capital costs of all the options, the practicality of importing heavy equipment to the site has been questioned because of

weight restrictions on the highway network. Location A1 would be the most complex of all options from a transport point of view with significant and costly engineering solutions likely to be required to facilitate transformer movements. There would also be impacts on local economic activity surrounding and in close proximity to the study area, notably the Colne Valley Railway tourist attraction. For these reasons, National Grid considers that Location A1 should not be taken forward.

8.36 A flood risk assessment has been carried out at the site and the site itself is not located within the floodplain. However, the floodplain would restrict the area which could be used for screen planting, allowing less scope for mitigation of views compared to options in the other substation study areas.

8.37 If this site were to be taken forward, it is not envisaged that construction traffic would be routed through Castle Hedingham village. The A1071 would be the most appropriate route for traffic servicing Location A1.

8.38 A heritage assessment has been carried out in relation to the impact on Hedingham Castle and given the distance between the substation site and the castle, the substation is assessed as having only a neutral to minor negative effect on the setting of, and views to, the castle after mitigation. There would be some impact on views of the upper storeys of the castle keep, although the lower storeys would be obscured by vegetation. A substation at Location A1 would not block any views of the castle.

8.39 National Grid accepts that there could be some harm to the Colne Valley Railway visitor attraction, as a result of siting a substation close to the entrance to the attraction, and this was a factor in deciding against this location as the preferred location for the substation. The effects on local residents were considered in the assessment and it is accepted that they will experience effects to a greater extent than visitors to the area.

8.40 The proximity of the overhead lines was a factor in shortlisting this location.

8.41 The transport assessments made by Wynns, and consultation with the highway authority, carried out on behalf of National Grid, have determined that routes to this location would be restrictive for Abnormal Indivisible Loads (AILs) as well as there being other transport issues which would be significant and costly. This was a factor in National Grid's decision that this location should not be its preferred option. A route through Haverhill would have its own constraints and would be much lengthier and circuitous given that it is assumed that the transformers will be imported through Tilbury Docks.

Study Area B - Delvyn's Lane

Issues

- Detrimental effect on main access roads into the village of Castle Hedingham;
- Potential harm to heritage and historic importance of Castle Hedingham;
- Proximity to Norman castle – one of best preserved Norman castles in Europe;
- Whether the development would impose on the Grade I listed Castle and the conservation area;
- View from the roof of Hedingham Castle of the substation;
- Potential harm to tourism industry;
- Effects on Parkgate Farm and Pannells Ash Farm;
- Whether the landscape is too sensitive to accommodate a substation;
- Visual impact on Castle Hedingham;
- Whether a substation at Location B1 or B2 would be less intrusive (than at Location C2) as it is on a less busy road;
- Effects on verges and wildlife around Delvyn's Lane;
- Effects on a rural road with a heritage protected verge and Tudor timber framed house at the end of it;
- Proximity to residential property with little existing screening;
- Effects on wild flowers, violets, orchids and primroses as well as butterflies, bees and birds;
- A suggestion that Locations B4 and B5 were only there to make up the numbers;
- The accuracy of the computer image of Location B1 is not accurate – swimming pool and garden of Parkgate Farm are within 200 metres of substation at Location B1 meaning clear views of the substation from here. Concern about health, noise and vibration and views from this property.

Responses

8.42 Whilst there would be some careful planning and possible road closures when gaining access to sites within Study Area B, access is achievable. Some minor tree pruning would be required along the access routes. It is technically possible to gain access to all sites within Study Area B for both AILs and construction vehicles from the A131 and B1058, although National Grid appreciates that this could result in greater temporary disruption to local roads than would be the case for sites within Study Area C. The options appraisal noted the difficulties of routeing construction traffic through Castle Hedingham and Sible Hedingham.

8.43 A heritage assessment has been carried out in relation to the impact on Hedingham Castle and given the distance between the substation site and the castle, the magnitude of effect is assessed as negligible.

8.44 National Grid accepts that there is likely to be some impact on tourism in the area, mainly relating to holiday lets at Pannells Ash Farm given their proximity to Study Area B.

8.45 All locations within Study Area B are considered to be of local value in landscape terms and have a low to moderate capacity to accommodate a substation. Introducing a substation would result in an incongruous feature in a predominantly rural setting.

8.46 Locations B1 and B2 would be further away from main roads and therefore be visible to fewer road users. However, the impact on views from properties, public footpaths and listed buildings would be greater and existing screening in these locations would not be as effective here as at Study Area C. The SSOAR notes that existing views of the substation site from Castle Hedingham are prevented by intervening mature vegetation.

8.47 Delvyn's Lane would not be used for access to locations in this Study Area. A separate access road would be constructed to avoid damage to the value of Delvyn's Lane.

8.48 Prior to mitigation, a substation at Location B1 or B2 would have a moderate negative effect on residents at Parkgate Farm, the nearest residential property.

8.49 The hedgerow removal required for the access to the substation and the 132kV underground cable as a result of Locations B1 or B2 would be compensated by landscaping proposals around the new substation. Impacts to the field ditch as a result of Locations B1 or B2 would be minimised by installing a culvert to prevent fragmentation of habitat at the road crossing. For all options in Study Area B, new

landscape planting around the substation would reduce impacts on ecology to minor negative to neutral.

8.50 Locations B4 and B5 were both considered to be viable sites for a substation with different technical requirements and environmental effects. They therefore merited comparison with other locations in the study area.

8.51 It is accepted that visualisations cannot be 100% accurate and that Parkgate Farmhouse and its curtilage would be likely to be affected by a substation at Location B1. It is not proposed to take this option forward.

Study Area C – Butler's Wood

Issues

Environment

- Study Area C is closest to a major road and well screened;
- Study Area C is furthest from public footpaths and houses;
- A view that the report on Study Area C skims over any effect on the landscape and does not address major disturbance to the wildlife that reside in the two ancient woodlands;
- The effects of Location C2 on views, particularly from the west as the area is 84m above sea level – one of the highest points in the area;
- Effects on an area considered to be "outstandingly beautiful";
- The options considered initially (Substation Siting Study 2009) failed to include for Study Area C eight grade II listed buildings and one grade II* listed building, underground archaeology at Bonnetts Farm, sherds of Roman Pottery, protected lanes, ancient woodlands and local wildlife sites. National Grid chose to continue with this site disregarding this, yet rejected other sites for similar reasons;
- The effects on ambient noise in a rural environment which has a much lower baseline than in an urban area;
- Concerns about the impact on wildlife at Butler's Wood, in particular the badger and deer population, birds, bats, barn owls, brown hare, and loss of trees;

- The need for landscaping and habitat creation to improve connectivity between woodlands and a minimum distance of 15m between woodland edge and any structure;
- A substation at Location C2 would require considerably more earth mounding (at least 6m) and tree planting and mature trees should be introduced to lessen the impact more quickly;
- Mounds and planting would not effectively screen or deaden sound of the substation. Most substations are deliberately located near to major roads or urban centres so that the sound is muffled by background noise;
- The TEP Substation Siting Study 2009 discounted Location C2 because they felt there was insufficient distance between existing 4YL pylons/lines and the boundary to Butlers Wood;
- Whether there is sufficient room to provide suitable planting and adequate screening for road users and nearby residents near to Location C2;
- Concerns about the impact of noise from Location C2 on wildlife in nearby woodland;
- The need to consider the historical and cultural heritage in this area as Location C2 in particular has a considerable number of ancient rural listed buildings;
- Question the assumption that effects of Location C2 would be localised given the potential impact on future AONB designation, cultural significance and historic and visual landscape which attracts many visitors;
- Post and rail fencing is not a feature of the local area and should not be used;
- Mitigation through screening by trees and planting takes time to grow and so any visual impact will only be reduced in 50 – 100 years if at all;
- All planting should be in keeping with the local flora and fauna;

Technical

- Concern that decision making process has been overly influenced by Location C2 requiring least system reinforcement works and lowest cost;
- The substation at Location C2 is preferred with the Air Insulated Switchgear;
- Whether the substation at Location C2 could be sunk into the ground;

- Whether a substation at Location C2 could be sited further back from the road by using a new pylon and three temporary pylons at high cost or by using a second gantry which would be at little cost;

Traffic and transport

- The effect on road users of Location C1 compared to Location C2;
- The natural screening and good access enjoyed by Location C2;
- The effect on the tranquillity of protected lanes, particularly Old Road and Watery Lane;
- The potential for the access to Location C2 to cause a traffic hazard with construction vehicles slowing down traffic;
- The access road should be a single vehicle roadway with hoggin verges that could have trackway over during major vehicle movements and should be curved;
- Concern regarding traffic movements through Halstead town centre – a conservation area;
- An access road through Butlers Wood is suggested and the wood is up for sale so an agreement could be reached;

Other

- The effect of a substation on an area which is important as a tourist attraction;
- If sited at Location C2 a substation will be visible at a point where visitors approach the Stour Valley, an area of outstanding natural beauty, made famous by the paintings of Gainsborough, so reducing its tourism potential;
- A view that the most logical site is Location C2 as it would be least damaging to the local area, infrastructure and population;
- The substation at Location C2 would lead to least disruption during construction;
- Super silent fans should be used as well as acoustic housing for the transformer;
- A view that Location C3 is best option in terms of infrastructure and affects fewer people in the area;
- The effects on Bullocks Hall Farm;

- The relationship with planning policy – the Braintree Core Strategy aims to 'make sure the landscape character of the countryside, biodiversity, wildlife habitats, agricultural land, historic towns, villages and buildings and protected and enhanced for future generations' and all sites are Grade 2 agricultural land – contrary to policy (CS8). Policy CS9 includes measures to promote and secure the protection and enhancement of the historic environment;
- Documentation links 'Butlers Wood' with Thomas de Butler who lived in Butlers Hall and Waldegrave Wood with Richard Waldegrave who also lived there.

Responses

Environment

8.52 The landscape of Study Area C is well documented in the SSOAR where it is assessed as being of local importance. The effects of the various options on the landscape are also covered in some detail. The area of land between the two woods (Location C2) is less sensitive to change compared with other substation options and has a greater capacity to accommodate a substation given the natural screening provided by the woodland blocks. This screening limits views of the site despite it being at one of the highest points in the locality. National Grid has worked hard to find a location which has the least possible impact on the landscape and visual amenity of the area as well as being close to the existing 400kV overhead line and easily accessible from major roads.

8.53 The decision making process, resulting in the conclusion that Location C2 should be preferred, has considered a number of factors, including environmental and socio-economic effects in addition to the requirements for system reinforcement works and the associated costs;

8.54 National Grid is liaising closely with environmental specialist agencies to ensure effects on wildlife are kept to a minimum and to agree a package of mitigation measures where appropriate. At Location C2, tree loss at Butler's Wood would be limited to a small number of trees on the frontage to the A131 which would need to be felled to accommodate sight lines for the access road. Landscaping and habitat creation would be designed to enhance connectivity between the woodlands.

8.55 The Substation Siting Study 2009 took account of designated sites, including listed buildings. Those sites which were rejected were not rejected on heritage grounds alone, but because of a variety of constraints, balanced with the opportunities which each site offered.

8.56 The low ambient noise levels of the rural environment are recognised, as is the separation distance to the nearest residential properties. Appropriate mitigation would be applied to transformers at the substation with the purpose of avoiding any perceptible increase in background noise levels at residential properties. This mitigation would include enclosure of the transformer and the use of low noise cooler fans.

8.57 Details of landscape mitigation measures at Location C2 will be agreed with the relevant authorities as the design develops. This may include the use of mounds to provide some early additional visual screening. The planting design will incorporate species common to the location. It is agreed that such features will have little effect on noise propagation which is best dealt with at source. Assets at the substation will have appropriate mitigation as part of the design. There is sufficient space between the substation and the road to develop effective structural landscaping.

8.58 The design of fencing will be considered further to reflect local styles.

8.59 It is accepted that the existing pylon at Location C2 is visible over a wide area. This situation will remain and some minor modifications will need to be made to this existing pylon such as extensions to cross-arms and downleads. However, the vast majority of additional infrastructure will be screened by existing trees and woodland. This being the case, the effects on any future proposals for AONB designation of the surrounding area are expected to be limited.

8.60 The Substation Siting Study 2009 considered that there would be insufficient room for a substation between the two areas of woodland (Location C2). However, more detailed design work has now been undertaken which demonstrates that it is possible to accommodate a substation in this area.

8.61 The SSOAR considered effects on the setting of listed buildings and identified eight Grade II and one Grade II* Listed Buildings within Study Area C and a buffer of 250m from the study area boundary. It concluded that these effects would be limited. In the case of Location C2 it concluded that the overall scale of effect on the historic environment of a substation at Location C2, specifically in relation to the cable connection, would be minor negative. Further archaeological investigations will be undertaken prior to construction.

8.62 There would be distant views of the substation between the woods from the house to the east of Bullocks Hall Farmhouse, but not from the farmhouse itself. Prior to mitigation, the scale of effect would be minor adverse. After 15 years the substation would be screened by woodland planting.

Technical

8.63 It is agreed that an Air Insulated Switchgear (AIS) substation at Location C2 would have a lesser visual impact on the surrounding landscape than a Gas Insulated Switchgear (GIS) substation.

8.64 As noted in paragraph 8.9, there are disadvantages associated with lowering the finished floor levels of the substation at Location C2 which provide strong arguments against such an approach in a situation where the location is already well screened.

8.65 As the representation suggests, moving the substation at Location C2 further away from the road would involve additional infrastructure and cost, and overall would not yield particular benefits in terms of landscape and visual effects.

Traffic and transport

8.66 All of the options in Study Area C would have similar impacts on the local highway network and traffic flows. Location C2 would require a shorter access road than Location C1. Further consideration will be given to the detailed design of the access road, taking account of the highway authority's requirements. There is no need to construct an access road through Butler's Wood, the historic nature and ecological value of which is recognised.

8.67 The effect on the tranquillity of protected lanes, particularly Old Road and Watery Lane, is likely to be minimal and restricted to the construction period, although the latter road is unlikely to be used by construction traffic and the former may only be used during installation of the 132kV connection.

8.68 A traffic management plan will be agreed with the highway authority and put in place during the construction period to ensure that highway safety is maintained. The plan will have regard to the particular conditions in Halstead town centre.

Other

8.69 The appraisal recognised that the A131 is a main route into both Sudbury and Halstead study area and that both towns are centres for local business services and tourism. It concluded that impacts on other areas likely to attract tourists would be negligible given the distances from the study area. In respect of Location C2, the two areas of woodland would prevent views of the substation from most vantage points and impacts on visitors passing through the area are likely to be limited.

8.70 The support for Location C2 is noted.

8.71 The options appraisal concluded that the overall effect on views of a substation at Location C3 would be greater than that of Location C2.

8.72 Planning policy is referenced in Chapter 5 of the SSOAR.

Influence on scheme design

8.73 The representations received in relation to this consultation do not indicate that there is a strong preference for a substation at any of the locations identified in the SSOAR other than the preferred Location C2. It is acknowledged that there would be some benefits of locating a substation at Location A1. However, given the highways constraints associated with this site as well as the limited capacity of the site for mitigation due to the nearby floodplain, this site would not be preferred over Location C2. Representations have not identified any further constraints which would lead National Grid to change its views as to the preferred option.

8.74 Some representations, including that from Braintree District Council have suggested alternative layouts within Location C2 and have made comments relating to the detailed design of the proposal, including its access road, landscaping and habitat creation and fencing. These will be taken into account in developing the detailed design further.

9 CONCLUSIONS AND DECISIONS

Conclusions

9.1 The representations received to the consultation on strategic options for replacing capacity on the local distribution network and on potential substation locations have been analysed and reported in this document. National Grid has considered whether, as a result of information received, it should modify its preferred approach to the provision of replacement distribution capacity.

9.2 The DSOR concluded that the provision of a new substation (Grid Supply Point) to the west of Twinstead (Option 6) would represent the most efficient, co-ordinated, and economical means of providing replacement distribution capacity and that it would have limited environmental effects. The SSOAR assessed different potential substation locations for this option and concluded that Location C2 at Butler's Wood should be preferred.

9.3 Location C2 was preferred over other substation locations because, of all the potential locations considered, it was assessed as having the least impact overall on the landscape character of the area, visual amenity, ecology and the historic environment. In landscape and visual terms, the location benefits from the screening effect of adjacent woodland. It would have the least negative effect in terms of the historic environment, relating only to the effects of the cable route on archaeology. Location C2 also has the potential to improve current habitat linkages between two ancient woodland wildlife sites.

9.4 The option was also assessed as being the least constrained from a technical perspective, with no major modifications being required to the 400kV transmission line, and with a relatively short underground connection to the 132kV distribution network and only a short access road being required. The capital cost of Location C2 was the lowest of all potential substation locations.

9.5 The consultation revealed mixed opinions in relation to a substation location in Study Area A. The majority of representations agreed that this site appears to be unsuitable due to access problems, problems of flood risk, its proximity to Castle Hedingham and the castle in particular. However, some argued that this location was the most suitable given its setting and its proximity to the 400kV overhead line.

9.6 Of the representations which showed a preference for a particular location, the majority were opposed to a substation being located within Study Area B. The main objection to this study area was the impact that a substation would have on the

landscape and wildlife in the area, particularly along Delvyn's Lane. Another common issue raised was the likely impact on the roads in the surrounding area and the impact that the long access road would have on the environment. Issues relating to views of and from Hedingham Castle and nearby residential properties were also raised.

9.7 Essex County Council raised a number of concerns about Location C2 which National Grid believes can be addressed through the detailed design of the scheme and associated mitigation measures. Braintree District Council considered that if a substation were the only option, Location C2 would be preferred, although set back further from the main road. The three statutory bodies raised no objection to Location C2.

9.8 There were local objections to Location C2, principally based on the view that the site is at the gateway to a culturally significant landscape to the north and that unnecessary pylons and infrastructure would have a negative economic impact on tourism. Essex County Council was also concerned that this issue, and the effect on the historic and visual landscape, which it considers to be of high quality, had been given inadequate consideration in the decision-making process. However, no additional pylons would be required and the vast majority of additional infrastructure will be screened by existing trees and woodland. This being the case, the effects on the landscape and on visitors passing through the area are likely to be limited.

9.9 All but one of the representations received relating to Study Area C being the preferred study area agreed that Location C2 was the best location. Some representations suggested various means of reducing further the effect of the substation, including lowering the ground levels, setting the substation further back from the A131, or providing greater amounts of earth bunding and tree screening.

9.10 Of the representations received which refer to the type of substation to be used, the AIS substation was unanimously the preferred type of substation. Representations agreed that AIS switchgear would result in less of a visual impact compared to a GIS building.

9.11 In respect of the preferred location for a substation, National Grid has taken into account all of the representations made and concluded that the previous selection of Location C2 remains robust. Consideration will be given to the detailed design to reduce further the effects on the surrounding area and those passing by on the A131.

9.12 The next question to be addressed is whether the option of providing a substation at this preferred location would also be preferable to other strategic options. The DSOR concluded that this was the case. During the consultation, there were no

representations in favour of other strategic options with the exception of Option 2 (a 132kV underground cable between Bramford and Twinstead) and Option 5.1.2 (a 132kV underground cable route between Braintree Substation and the 132kV PCB line near Rushley Green with reinforcement at Braintree substation). Many of these representations stated that the latter is the only option that could be supported. Some representations questioned the costs put forward relating to this option and other elements of the appraisal. Option 5.1.2 was favoured by the local authorities, some of the parish councils and by the local amenity group Stour Valley Underground.

9.13 A review of costs carried out following the consultation period confirmed that Option 2 would have a capital cost of £57.8m and a lifetime cost of £63.3m, compared to a capital cost of £26.1m and a lifetime cost of £27.6m to provide and connect a new substation at Location C2[41]. Installing a 132kV underground connection about 26km in length would result in largely temporary disturbance within this construction corridor with potential adverse effects on landscape features, ecology and archaeology, some of which could be mitigated. The benefits of avoiding the localised, and minor adverse effects on the environment, which would be associated with a new substation at Location C2, would not outweigh the much greater cost and disturbance which would be associated with Option 2.

9.14 Establishing an underground connection between Braintree and Rushley Green with associated reinforcement works at Braintree substation would have a lower cost than Option 2 but, at £50.4m capital cost and £57.8m lifetime cost, would still be considerably more expensive than providing a substation at Location C2. An 18km corridor would be subject to largely temporary disturbance. There may be potential for accommodating some cable sections under carriageways which could reduce some of these effects at the cost of further traffic disruption. As with Option 2, the benefits of avoiding the localised, and limited adverse effects on the environment, which would be associated with a new substation at Location C2 (which is not one which is subject to particular environmental designations, nor is in the vicinity of residential areas), would not outweigh the much greater cost and the disturbance which would be associated with Option 5.1.2[42].

[41] The substation costs have also been revised to reflect the need to provide a single SGT rather than the two SGTs assumed in the original UKPN report – see paragraph 7.23

[42] Paragraph 2.8.9 of National Policy Statement EN-5 refers to the need to consider the balance of different factors.

9.15 Some representations have claimed that implementing Option 5.1.2 would permit the removal of the section of 132kV overhead line between Twinstead Tee and Rushley Green and that this would result in significant benefits to those living near the 132kV overhead line and to the setting of nearby designated heritage assets. However, the removal of this section of overhead line is not required in order to implement the Bramford to Twinstead Connection. Furthermore, UKPN has informed National Grid that it intends to retain these assets and on that basis there can be no guarantee that such benefits can be realised. This would be a matter for UKPN in the discharge of its statutory responsibilities. National Grid is firmly of the view that there is no basis for it to seek powers to intervene in the operation of UKPN's distribution infrastructure and that, in any event, it would not be authorised to do so, given that there is no requirement for the removal of those assets to implement the Bramford to Twinstead Connection.

9.16 In any event, even if this section of overhead line were to be removed, the long term landscape, visual and heritage effects are assessed as minor positive, affecting an undesignated landscape and receptors close to the existing overhead line. This would not alter, to a significant degree, the balance between benefits and costs when comparing Option 5.1.2 to Location C2.

9.17 The provision of a new substation at Location C2 would have least effect on the landscape with mitigation in place (a minor to moderate negative effect) compared to the alternative substation locations considered. Due to the degree of existing screening surrounding Location C2, this option would have a minor negative effect on visual amenity with mitigation and in the long term. While there would be minor positive benefits to landscape character and views associated with the removal of the 132kV overhead line between Twinstead Tee and the vicinity of the substation site, the preferred option is acceptable as proposed and it is not necessary to remove the 132kV overhead line to mitigate adverse effects of the preferred option.

Decisions

9.18 Having considered the findings of the DSOR and SSOAR and all the representations received during the consultation period, National Grid has determined that maintaining connectivity with the UKPN network would best be achieved by developing a new substation west of Twinstead Tee and that Location C2 should be taken forward as the location for such a substation. National Grid has concluded that the assessments in the DSOR and SSOAR are robust and that representations have

not introduced new information which would lead to a change to the recommendations in these reports.

9.19 National Grid has determined that the design should adopt air insulated switchgear, a position supported in representations. In designing the substation in detail, further consideration should be given to the form and extent of landscape mitigation and to local access arrangements, including both the design of the access road and junction with A131 and the management of construction traffic on the local highway network.

Next steps

9.20 The next step is to commence the development of a detailed connection design for the Bramford to Twinstead Connection, to include the preferred substation location, which will also be influenced by technical considerations, environmental and geo-technical surveys and discussions with affected landowners and occupiers.

9.21 During Stage 3, the detailed connection design will be subject to Environmental Impact Assessment (EIA) and further public consultation, as part of National Grid's formal consultation on the proposed application. This will provide another opportunity for individuals and bodies to make representations about the UKPN Connection and substation elements of the proposed application (as well as all other elements of the proposed application).

9.22 Formal consultation on the proposed application, including the detailed connection design and preliminary environmental information, will be undertaken once the informal consultation stage has been completed. A decision will then be taken by National Grid, in the light of the consultation feedback, as to whether an application should be made and, if so, whether it should be made in the form of the proposed application or in an amended form which takes account of further representations.

9.23 The application will then be finalised and submitted to the Secretary of State, seeking consent for the connection and associated development.

APPENDICES

Appendix A

Parish Councils consulted

Castle Hedingham

Gestingthorpe

Great Yeldham

Toppesfield

Sible Hedingham

Great Maplestead

Wickham St. Paul

Pebmarsh

Alphamstone

Twinstead

Little Henny

Great Henny

Bulmer

Appendix B

Other Prescribed Bodies consulted

East of England Development Agency
East of England Strategic Health Authority
Health and Safety Executive
Suffolk Fire & Rescue Service Headquarters
Essex County Fire & Rescue Service
Suffolk Constabulary
Essex Police Headquarters
Commission for Architecture and the Built Environment
The Equality and Human Rights Commission
The Commission for Sustainable Development
Natural England
English Heritage
The Environment Agency
Homes and Communities Agency
Commission for Rural Communities
The Marine and Fisheries Agency
Maritime and Coastguard Agency
Civil Aviation Authority
Passenger Transport Executive
The Highways Agency
Suffolk County Council Highways Department
Essex County Council Highways Department
Rail Passenger Council
Disabled Persons Transport Advisory Committee
The Coal Authority
The Office of Rail Regulation
Office of the Gas and Electricity Markets
Ofwat
Association of Drainage Board Authorities

East Suffolk Internal Drainage Board

British Waterways Head Office

Trinity House

The Health Protection Agency

Suffolk Resilience Forum

Secretariat of the Essex Resilience Forum

The Crown Estate Commissioners

The Forestry Commission England

Network Rail

Joint Nature Conservation Committee

Relevant Statutory Undertakers

Appendix C

Other Bodies consulted

Government Office for the East of England
Local Government Association
Defence Estates Safeguarding Head Office
NATS
Royal Society for Protection of Birds
The National Trust
Essex Wildlife Trust
Suffolk Wildlife Trust
Woodland Trust
Campaign for National Parks
National Farmers Union
Country, Land and Business Association
The Open Spaces Society
Sustrans
Ramblers Association
CPRE National Office
CPRE
Friends of the Earth
Greenpeace
Colne Stour Countryside Association
Dedham Vale Society
Suffolk County Council Liberal Democrats Group
Suffolk Preservation Society
Transition Lavenham
Dedham Vale AONB & Stour Valley Project

Appendix D

Consultation Letter To Residents

Dear x

Bramford to Twinstead Tee Connection project - Public consultation events

I am writing to let you know about three consultation events we are holding to hear your opinions on our proposals for a new substation. The times and locations of these events are overleaf. If you would like a briefing after the events to discuss any issues not raised at the time, we will arrange this for you. Please just let us know by calling our community relations team on 0800 377 7340.

When we announced our preferred corridor for the new connection in July 2011, we committed to take down the existing 132,000 volt line between Burstall Bridge and Twinstead Tee. Removing the smaller pylons will help to reduce the visual impact of our proposed 400,000 volt connection.

Before we can do this, we will need to make sure local electricity supplies can be maintained and after extensive studies we believe that building a new substation is the most appropriate option.

Before we confirm our preferred location, we want to know if you think there is anything else we should take into account.

We are holding three public consultation events where we will display further information and answer any questions you may have. To help you get a clearer picture of what a substation might look like, we will display 3D models for potential substation designs which can be viewed from the surrounding area.

The times and locations of the public consultation events are shown overleaf. I hope you will be able to attend one of these events. We welcome your feedback on our proposals and we will review all representations we receive to see if there are any significant new issues we should consider before confirming the proposed location. The closing date for receiving any feedback is 8 April 2013.

If you would like more information on the project, you can visit www.nationalgrid.com/bramford-twinstead, contact the Community Relations Team on 0800 377 7340 or email bramford-twinstead@uk.ngrid.com.

Yours sincerely

Brian Smethurst

Senior Project Manager

National Grid

Public consultation events

Gestingthorpe village hall

Thursday 21 February 2013 2:00pm – 8:00pm

Wickham St Paul village hall

Thursday 28 February 2013 2:00pm – 8:00pm

Castle Hedingham village hall

Wednesday 6 March 2013 2:00pm – 8:00pm

Appendix E

Feedback Form

nationalgrid

Bramford to Twinstead Tee Connection Project

Consultation on strategic options to maintain local supplies and potential substation locations.

National Grid has committed to remove the existing 132,000 volt line between Burstall Bridge and Twinstead Tee.

We are asking for feedback on options identified in the Distribution Systems Options Report and the Sub station Siting Options Appraisal.

The closing date for feedback will be_____.

The feedback you provide will influence the decisions made and will be included as part of our application to the Planning Inspectorate, the body responsible for making decisions on major infrastructure projects.

Please place this form in the feedback box at our events or post it to:

Freepost NATIONAL GRID CONNECTIONS

Alternatively you can submit your comments online at:

www.nationalgrid.com/bramford-twinstead

We welcome your feedback at any point during our consultation.

SECTION A - ABOUT YOU

Please complete the following questions using blue or black pen only. **Please use block capitals**

Title: First Name: Surname:

Address:

Post code:

Email:

Telephone (if you wish to be contacted by phone):

Are you responding on behalf of an organisation?

Yes ☐ No ☐

If yes, which organisation: _____

DISTRIBUTIONS SYSTEMS OPTIONS REPORT

This line that National Grid has committed to remove is owned by UK Power Networks, the local distribution network operator. UK Power Networks takes electricity from National Grid and distributes it at lower voltages for use in homes and businesses across the east of England, London and the South East.

Before we remove the line, we will need to make sure that local supplies are maintained. UK Power Networks has looked at how this could be done and set out the details in its report *132kV network reconfiguration to accommodate wider systems works*. This is available on our project website.

The UK Power Networks' report considered several options, including building new 132,000 volt overhead lines or underground cables between different points on its network, or building a new substation.

National Grid has assessed the options in the UK Power Networks report and we believe that the most appropriate option is to build a new substation to the west of Twinstead Tee.

We have now published our *Distribution Systems Options Report*, which sets out how we appraised UK Power Networks options and explains how, in deciding we believed a substation was the most appropriate option, we have taken into account statutory duties, policy considerations, environmental, socio-economic and technical issues and cost.

We are asking for feedback on the options identified in the *Distribution Systems Options Report*. The reports are available at our events, on the project website **www.nationalgrid.com/bramford-twinstead** and at local council offices and libraries across Suffolk.

We want to know if you think there is anything else we should take into account that we have not already considered. Please use the comments box on the opposite page to give us your views.

YOUR FEEDBACK

Comment box:

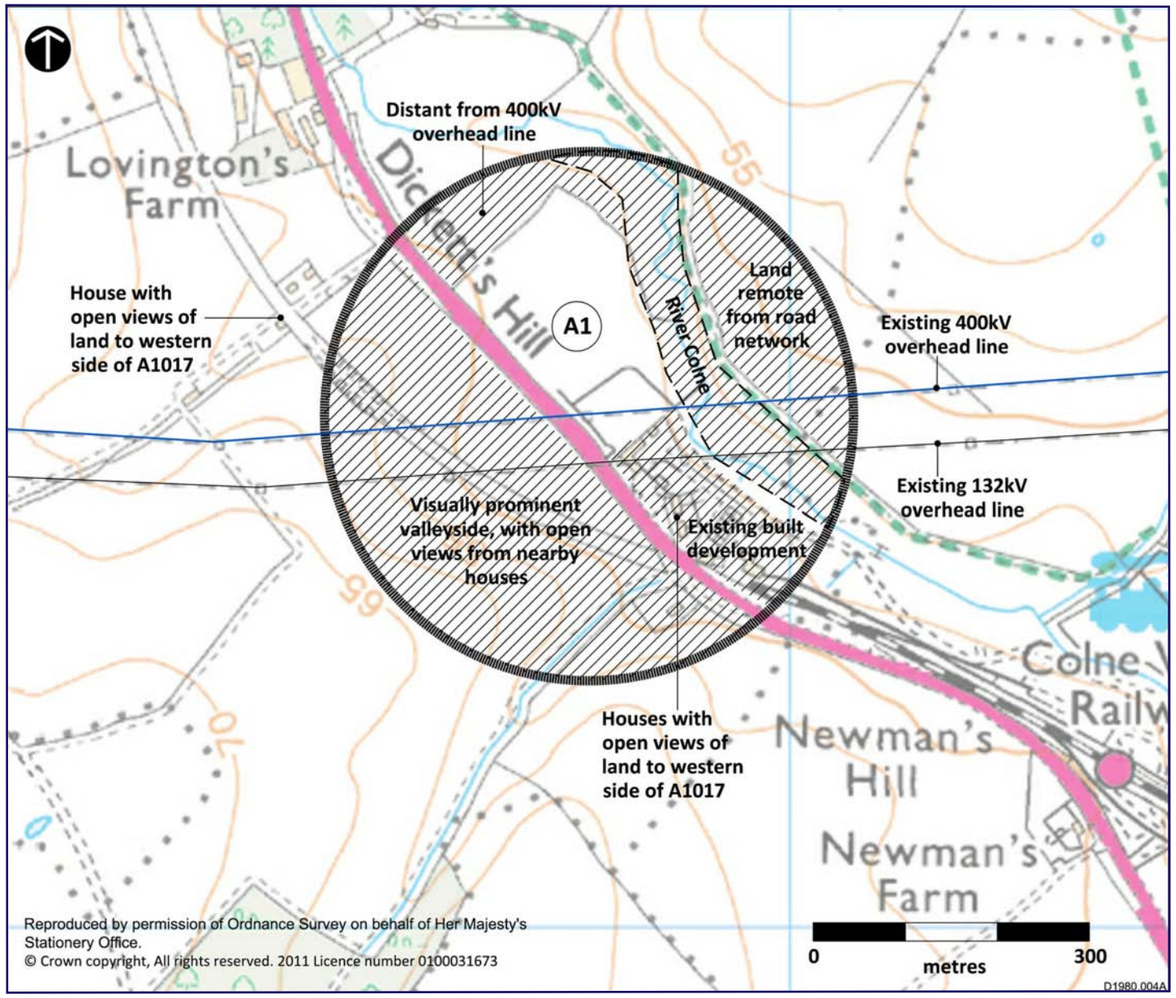
POTENTIAL SUBSTATION LOCATIONS

National Grid will consult on the potential sites for the new substation. In 2009 National Grid's environmental consultants, TEP, carried out a preliminary study to identify suitable potential locations for a new substation. The draft findings were published on the project website in the Draft Substation Siting Study.

Further studies have been undertaken and separate locations for the siting of such a substation have been assessed by National Grid:

Please turn over to view details of the substation siting options.

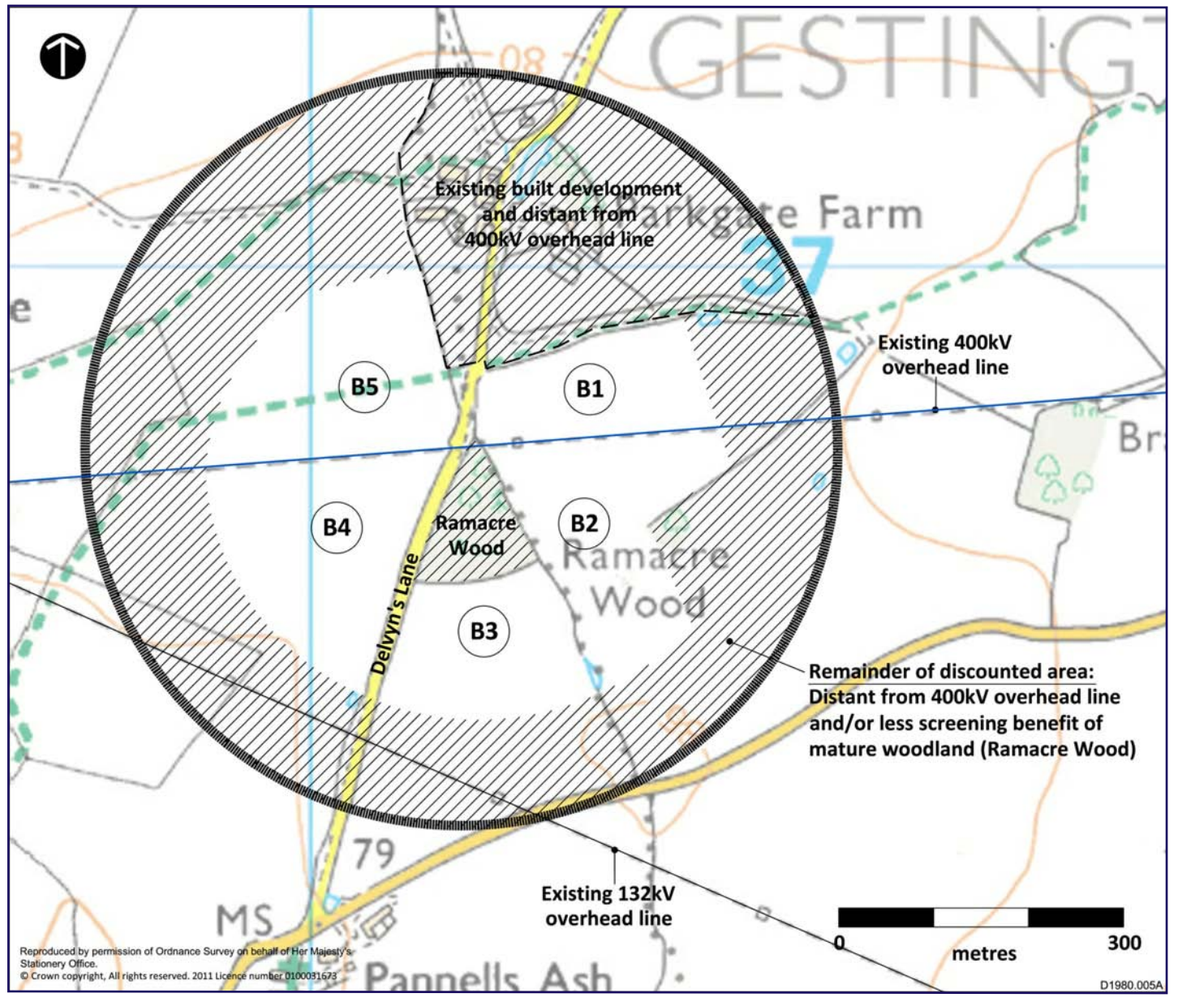
SITE A



Study Area A is directly adjacent to the existing 400,000 volt overhead line and close to the existing 132,000 volt overhead line north of Colne Valley Railway between the villages of Castle Hedingham and Great Yeldham. There is only one potential site for a substation within Study Area A. This is to the eastern side of the A1017 Dickett's Hill in a field to the north of the entrance to the Colne Valley Railway.
The location was identified because it met all technical requirements including suitable access and is close to other built development in the valley.

Site discounted
A1 – greatest noise impact, complex transport mitigation and close proximity to a local tourist attraction - Colne Valley Railway.

SITE B

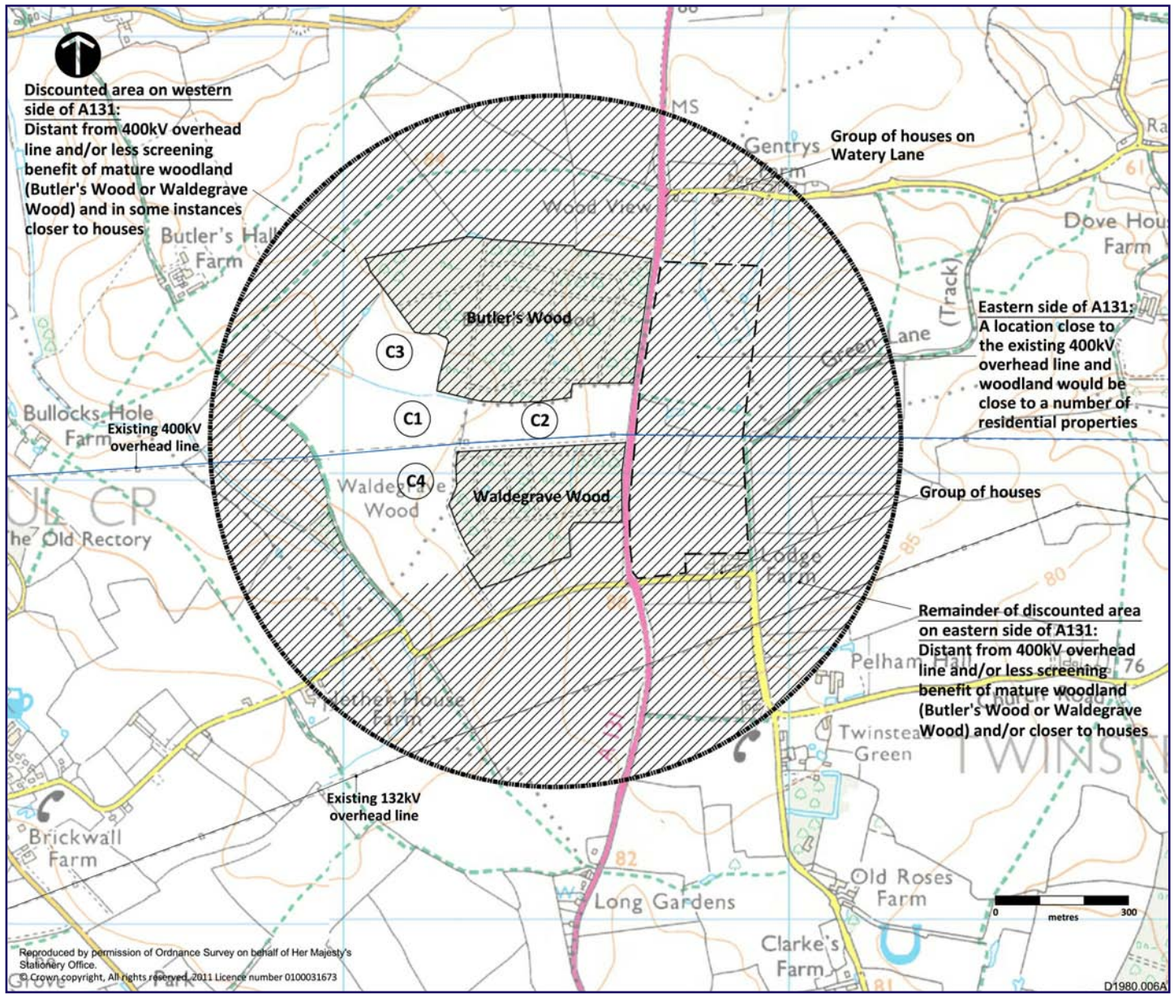


Study Area B is to the north of Sudbury Road near (insert where), which would provide good access. It includes existing woodland, Ramacre Wood, which would provide some immediate screening, and is close to the existing 400,000 volt overhead line.
We have identified five potential substation sites within this study area, two to the north of the 400,000 volt overhead line (B1, B5) and three to the south (B2, B3, B4).

Sites discounted
B3 – requires a larger footprint and an additional pylon.
B4/B5 – very long access roads required and impact on views from properties.

Sites preferred
B1/B2 – smaller footprint and existing screening with Ramacre Wood and additional space for further mitigation.

SITE C



Study Area C is located (insert where) and contains two large areas of woodland (Butler's Wood and Waldegrave Wood) which would provide some screening. This location has very good access directly from the A131. Within this study area four potential sites (C1, C2, C3 and C4) were originally considered..

Sites discounted
C1 –visual impact, no benefit compared with C2.
C3/C4 – slightly larger footprint, new 'in-line' pylon required, visual impact.

Site preferred
C2 – between woodland acting as mitigation. Existing tension pylon in situ. Close to heavy load access road.

YOUR FEEDBACK

After reviewing the options within the three study areas, our Substation Sitting Options Appraisal Report concludes that the most appropriate is C2. We believe that a substation on this site would have the least environmental effect of all the locations overall. This option also has fewer technical constraints.

We are asking for feedback on the options. We want to know if you think there is anything else we should take into account that we have not already considered.

Please use the comments box below to give us your views.

Comment box:

Thank you for completing this feedback form. All of the comments we have received will be logged and analysed and will help inform the decision making process.

More information is available from National Grid via the contact details below:

Visit our project website:
www.nationalgrid.com/bramford-twinstead

Call our freephone number:
0800 377 7340

Send an email to:
bramford-twinstead@uk.ngrid.com

Write to our freepost address at:
Freepost NATIONAL GRID CONNECTIONS

Data Privacy Notice

National Grid is committed to respecting your privacy and to complying with all applicable data protection and privacy laws. We are undertaking this consultation to seek your views on the Bramford to Twinstead Tee Connection Project. Your information may, for this purpose, be disclosed to or shared with the following:

- other National Grid Group companies;
- third party service providers, contractors, or advisors who provide services to us; and
- Planning Inspectorate and any relevant Local Planning Authority (LPA)

Appendix F

Categorisation of representations

The overview below explains the meaning of the 14 overarching themes used to analyse the consultation representations.

Theme	Acronym	Short description
Consultation and Information	CI	Comments about the consultation process and requests for information.
Cost	CST	Comments relating to the cost of the proposed infrastructure.
Previous Decisions	D	Comments relating to decisions previously made by National Grid including, strategic options, route corridors and preferred corridor and the need case for the Project.
Environment	E	Comments relating to the potential impacts of the project on the environment.
Engineering, Construction and Operation	ED	Comments relating to technical aspects and impacts of the construction or operation of the proposed infrastructure.
Health, Safety and Security	HSS	Comments relating to the potential impact the proposed infrastructure could have on people's health and safety.
Policies and Principles	PP	Comments referring to policies or principles that may be relevant in the decision-making process.
Socio-economic	SE	Comments relating to the potential socio-economic impacts of the proposed infrastructure including impacts on local businesses and property values.
Study Area A	SAA	Comments relating to Study Area A for the proposed substation
Study Area B	SAB	Comments relating to Study Area B for the proposed substation
Study Area C	SAC	Comments relating to Study Area C for the proposed substation
Substation	S	Comments relating to all proposed substation options
Reference	R	Comments referring to other reports, or other stakeholders' representations.
Routeing and Design	RD	Comments relating to the routeing and design of the connection, including the use of transmission technologies e.g. undergrounding.

Appendix G

Letter to Parish Councils

Dear x

Bramford to Twinstead Tee Connection project – Invitation to Parish Council briefing

I am writing to invite all members of your parish/town council to a briefing with National Grid.

The briefing will consist of a presentation and Question and Answer session, aimed at providing information on the new substation proposals and public consultation in your area. .

Parish councillors from the surrounding area will also be invited to attend.

You are invited to attend anyone of the briefings shown below:

Monday 11 March 2013	**Gestingthorpe village hall**	**7:00pm – 8:30pm**
Thursday 14 March 2013	**Wickham St. Paul village hall**	**7:00pm – 8:30pm**

When we announced our preferred corridor for the new connection in July 2011, we committed to take down the existing 132,000 volt line between Burstall Bridge and Twinstead Tee. Removing the smaller pylons will help to reduce the visual impact of our proposed 400,000 volt connection.

Before we can do this, we will need to make sure local electricity supplies can be maintained and after extensive studies we believe that building a new substation is the most appropriate option.

Before we confirm our preferred location, we want to know if you think there is anything else we should take into account.

If you would like to attend one of the briefings please notify the Community Relations Team on 0800 377 7340.

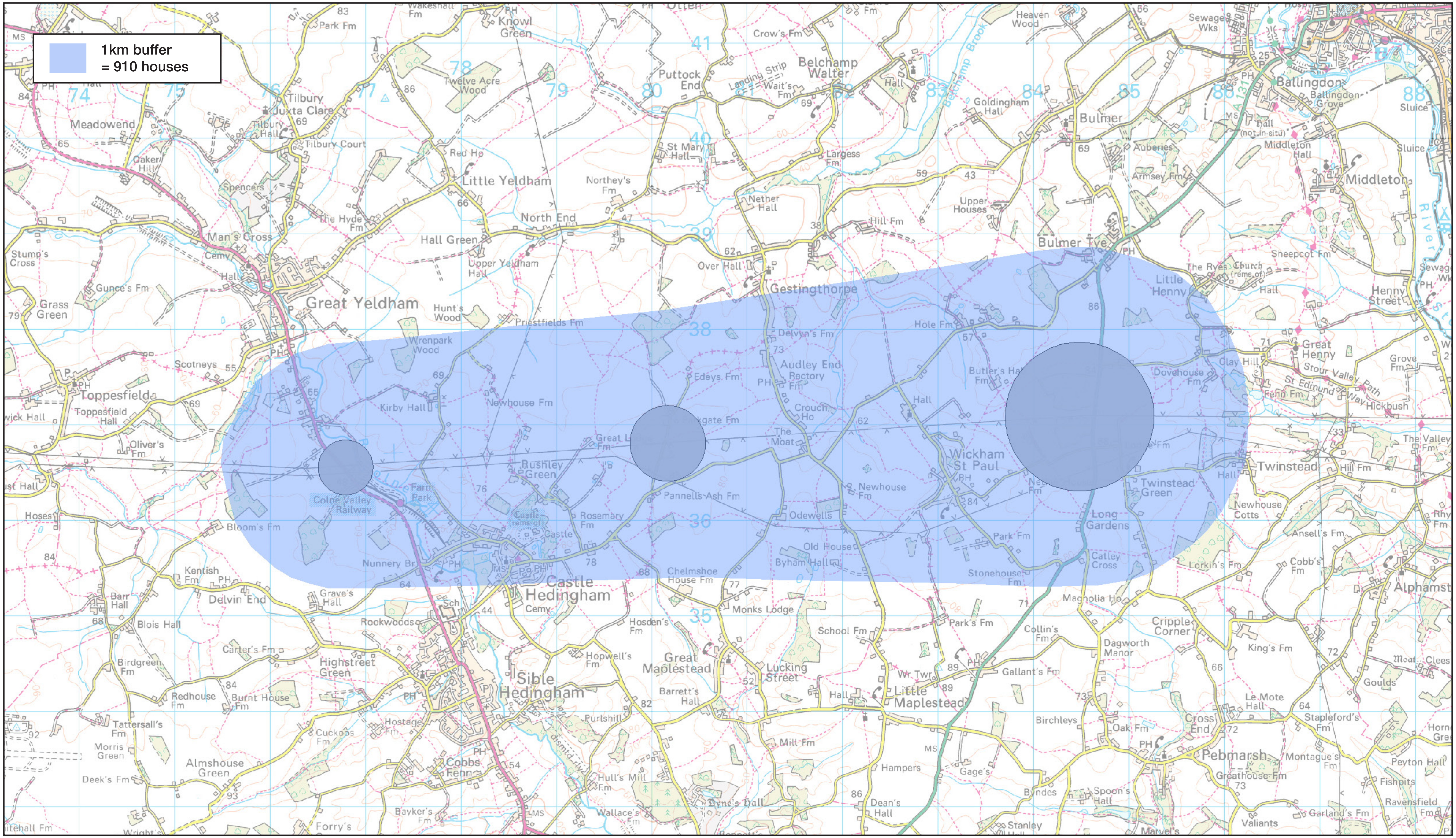
If you would like more information on the project please log onto the project website www.nationalgrid.com/bramford-twinstead, or contact the Community Relations Team on 0800 377 7340 or email bramford-twinstead@uk.ngrid.com.

Yours sincerely

Brian Smethurst
Senior Project Manager
National Grid

Appendix H

Consultation Zone Map



1km buffer
= 910 houses
Great Yeldham
Little Yeldham
Tilbury Juxta Clare
Toppesfield
Gestingthorpe
Belchamp Walter
Bulmer
Bulmer Tye
Ballingdon
Middleton
Little Henny
Great Henny
Wickham St Paul
Twinstead
Twinstead Green
Long Gardens
Castle Hedingham
Sible Hedingham
Great Maplestead
Little Maplestead
Pebmarsh
Alphamstone
Audley End
Rushley Green
Colne Valley Railway
Nunnery Br
Delvin End
Highstreet Green
Almshouse Green
Cobbs Fenn
Lucking Street
Kirby Hall
Newhouse Fm
Pannells Ash Fm
Odewells
Old House
Byham Hall
Hole Fm
Butler's Hall
Dovehouse Fm
Calley Cross
Stonehouse Fm
Magnolia Ho
Chelmshoe House Fm
Monks Lodge
Rosemary Fm
Priestfields Fm
Wrenpark Wood
Edeys Fm
Delvyn's Fm
Crouch Ho
The Moat
Great Lodge Fm
Park Fm
Bloom's Fm
Grave's Hall
Rookwoods
Hull's Mill
Dyne's Hall
Cripple Corner
Dagworth Manor
Cross End
Upper Yeldham Hall
North End
Hall Green
Hunt's Wood
Man's Cross
Over Hall
Netherhall
Puttock End
Knowl Green
Scotneys
Stump's Cross
Grass Green
Gunce's Fm
Meadowend
Oliver's Fm
Kentish Fm
Blois Hall
Redhouse Fm
Burnt House Fm
Birdgreen Fm
Tattersall's Fm
Morris Green
Hampers
Gage's
Byndes
Stanley
Dean's Hall
Birchleys
Oak Fm
Le Mote Hall
Stapleford's Fm
Montague's Fm
Greathouse Fm
Valiants
Garland's Fm
Fishpits
Ravensfield Fm
Peyton Hall
Goulds
King's Fm
Lorkin's Fm
Cobb's Fm
Ansell's Fm
Newhouse Cotts
Hill Fm
Hickbush
Fenn Fm
Clay Hill
Grove Fm
Henny Street
Sheepcot Fm
The Ryes
Auberies
Armsey Fm
Middleton Hall
Goldingham Hall
Heaven Wood
Upper Houses
Largess Fm
St Mary Hall
Crow's Fm
Twelve Acre Wood
Red Ho
Northey's Fm
The Hyde Fm
Spencers
Oaker Hill
Tilbury Court
Park Fm

Appendix I
Consultation Letter to Statutory Consultees

Dear x

Bramford to Twinstead Tee Connection project – New substation proposals

National Grid confirmed its preferred corridor for the proposed 400,000 volt connection between Bramford near Ipswich and Twinstead Tee near Sudbury, in July 2011. At that time we confirmed that the existing 132,000 volt (132kV) line between Burstall Bridge and Twinstead Tee would be removed as part of the scheme.

To ensure that local electricity supplies would be maintained we have been working with UK Power Networks, who own and operate the 132kV line, to see how this could be achieved and on 11th February we published two reports for consultation.

The first report – *Distribution Systems Options Report*, sets out our appraisal of the options to replace the local network supply and concludes, subject to consultation, that a substation is the most appropriate option to take forward.

The second report - *Substation Siting Options Appraisal*, considers the options for locating a new substation and explains which we feel, subject to consultation, is the most appropriate.

We are keen to consider any representations that we receive before confirming our preference and we have been asking for feedback on the findings of our reports. However, due to an administrative error a small number of consultees, including your organisation, were not notified of this consultation, for which we apologise. We recognise the relatively short notice to do so but if your organisation does wish to respond, we would be very grateful if we could be provided with that by 30 April.

Whilst we are not required to undertake consultation at this stage, we think it is useful to seek feedback on our proposals as they develop ahead of formal consultation (as required under the Planning Act 2008) which is likely to commence sometime later this summer. At that point there will be further opportunity to provide feedback on all aspects of the scheme.

In the meantime, the two reports are available on the project website for review: http://www.bramford-twinstead.co.uk/substation-consultation.aspx and we will consider all representations received before the 30th April before we confirm our preferred option.

If you would like more information on the project, you can visit www.nationalgrid.com/bramford-twinstead, contact the Community Relations Team on 0800 377 7340 or email bramford-twinstead@uk.ngrid.com.

Yours sincerely

Brian Smethurst
Senior Project Manager
National Grid