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Bramford to Twinstead Tee Connection Project

Connection Options Report

Executive Summary

National Grid
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

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1. National Grid has identified the need for a new 400kV connection between Bramford substation in Suffolk (west of Ipswich) and Twinstead Tee in Essex (south of Sudbury). In July 2011, it announced its preferred corridor for an overhead line connection. This corridor (Corridor 2) incorporates the route of a 132kV overhead line, operated by the Distribution Network Operator UKPN, which runs from Burstall Bridge, 2.5km to the south of Bramford substation, to Twinstead Tee. Two options (Corridors 2A and 2B) were identified for the eastern end of Corridor 2 in the Hintlesham area.

2. National Grid agreed to undertake further studies to determine whether it would be appropriate to underground sections of the connection to mitigate potential impacts on sensitive locations, and to consult on its findings and on options for the Hintlesham area. The Connection Options Report explains the process by which options for overhead and underground indicative alignments have been appraised and makes recommendations as to the extent of undergrounding for the Bramford to Twinstead Tee connection. Where an overhead line solution is considered appropriate, it identifies the least environmentally constrained interim alignment.

3. National Grid is subject to a range of statutory obligations. In addition to maintaining an efficient, co-ordinated and economical system of electricity transmission, it is required to have regard to preserving amenity and to undertake measures to mitigate the impact of its proposals. Where new infrastructure is required, National Grid seeks to avoid national and internationally designated areas and to minimise the effects of new infrastructure on other sites of amenity value.

4. In its Approach to the Design and Routeing of New Electricity Transmission Lines, National Grid explains that it will apply a multi-criteria assessment when considering options, focussing on relevant factors - environmental, socio-economic, technical and cost. It will refine designs as further information becomes available.

5. To inform the options assessment, National Grid has undertaken additional investigations of a range of environmental and socio economic factors. These studies have been informed by inputs from four Community Forums (Hintlesham/Chattisham, Hadleigh, Polstead/Dedham Vale and Twinstead) and three Thematic Groups (Landscape and

Views, Biodiversity and Cultural Heritage). In addition, engineering studies have been undertaken to identify feasible technical options. National Grid has also taken into account responses received to its Stage 1 Consultation, when a large number of views were expressed which favoured undergrounding all or part of the route.

6. The assessment has involved the division of the route corridor into study areas based on landscape character. For each study area, the process then involved the identification of indicative overhead and underground route alignments; the selection of the least environmentally constrained overhead alignment; and an assessment of whether undergrounding would be appropriate taking into account landscape and visual considerations, the environmental consequences of undergrounding, and the costs involved.

7. The report recommends that approximately 8km of the connection should be made by underground cables in order to mitigate the effects of the scheme on the landscape. This will increase the estimated capital cost from that of a wholly overhead connection by £156.4m to £207.7m.

8. In Dedham Vale Area of Outstanding Natural Beauty (AONB), an underground cable section 4.2km in length is proposed from west of Heath Road, Polstead Heath to Leavenheath. This is a particularly sensitive section of the route, given its nationally designated status as an AONB, and undergrounding would be consistent with national policy, the Holford Rules and the views of statutory bodies. It would also avoid the direct impacts which overhead line options would have on commercial orchards important to the local economy. The associated removal of the 132kV overhead line would result in an enhancement of the AONB. The environmental effects of undergrounding can be mitigated.

9. In the Stour Valley, a 3.8km underground cable section is proposed from west of Dorking Tye to the Bramford-Braintree-Rayleigh overhead line south of Twinstead Tee. Undergrounding would be appropriate for this section of the connection because of the particular qualities of the landscape and its cultural associations. The Stour Valley is managed as if it were already designated as an AONB. There is a long standing aspiration for formal AONB recognition of this area, based on the high quality of the landscape, combined with the strong cultural links associated with the artist Gainsborough in particular. Statutory bodies, Thematic Groups and the public have consistently indicated their view that it would be appropriate to adopt undergrounding in

this area. The attractiveness of the landscape for tourism, an important contributor to the local economy, would be enhanced by the associated removal of the 132kV overhead line. The environmental effects of undergrounding can be mitigated.

10. In the Hintlesham area, the least constrained overhead line alignment is considered to be the Corridor 2B southern alignment. This would involve running a new overhead line from Bramford substation to the south of the existing 400kV overhead line, then adopting the route of this existing line to pass through Hintlesham Woods, before running again to the south of the existing line. In order to permit this, the existing 400kV overhead line would be routed onto a new alignment north of Ramsey Wood, rejoining the existing line near Clay Lane. A Corridor 2A alignment would involve introducing a new overhead line where none currently exists and would affect more local views. The 132kV overhead line which occupies the gap between the settlements of Chattisham and Hintlesham would be removed.

11. The landscape and visual effects of a northern alignment in Corridor 2B would extend over a greater area than a southern alignment because of the degree of separation from the existing 400kV overhead line. A Corridor 2B northern alignment would involve a northern approach to Bramford substation which would be more difficult to engineer.

12. Although a southern alignment would result in a new 400kV overhead line being brought closer to Grade I Listed Hintlesham Hall than the existing overhead line, it would have only limited effects on the former parkland which now contributes little to the setting of the Hall.

13. Elsewhere, in the Brett Valley, Polstead and Leavenheath/Assington areas, the report recommends that a new overhead line should be constructed to the south of the existing 400kV overhead line. The existing 132kV overhead line would be replaced in these parts of the route with a larger 400kV overhead line. This would result in a lesser scale of change to landscape and views than introducing a 400kV overhead line to the north where no line currently exists. A southern alignment would also have less of an effect on features of ecological or heritage interest.

14. Representations will be invited from statutory and other local bodies and from the public on the findings of the Connection Options Report. The findings of the report will also be discussed with the Community Forums and Thematic Groups. Following this consultation period, the representations will be reviewed to determine whether any issues have been raised which would justify departing from the recommendations of the report.

15. Consistent with a previous commitment, specific consultation is to be undertaken on options for Study Area AB (Hintlesham/Chattisham). Following a review of representations received, the proposed alignment of this section of the route will be confirmed. This will complete the definition of an interim alignment for the whole connection.

16. Following consultation, the final decision on undergrounding will be integrated with the outcomes of other studies, including detailed alignment designs and the selection of a preferred substation site west of Twinstead, which will be the subject of separate consultation and options appraisal exercises. This will form the basis of an application for a Development Consent Order to be submitted to the Planning Inspectorate in 2013.