

National Grid North London Reinforcement Project

in the London Boroughs of Enfield, Haringey and Waltham Forest and
Epping Forest District Council

Planning Inspectorate Reference: EN020009

National Infrastructure Project Development Consent Order application – Local Impact Report

Planning Act 2008

The proposal

To replace and maintain an existing section of 275kV overhead power line with a 400kV overhead line and to undertake works to the associated substations at Waltham Cross, Brimsdown and Tottenham. This is designed to help facilitate the increased flow of electricity into London.

The applicant

The applicant is **National Grid**.

Strategic impacts

- Loss of bus garage and consequent impact on bus services;
- Impact of construction;
- Visual impact of substations and associated works;
- Biodiversity impact, particularly on protected species;
- Noise;
- Impact on flooding;
- Impact on open space, recreation and Green Belt

Context

1 National Grid has submitted a Development Consent Order application to the Planning Inspectorate for the project outlined above. Section 60 (2) (B) of the 2008 Planning Act sets out that the Planning Inspectorate is also required to invite the GLA to submit a local impact report (Section 60 (2) (B) of the Act). The GLA may also make representations on the proposal.

2 GLA comments on the pre-consultation stage of the proposal were set out in a report which was presented to the Mayor on 20 April 2011 (PDU/2783/01). This report had the following conclusion:

'National Grid is encouraged to work with the GLA and the local planning authorities to contribute to the regeneration and reinvigoration of the Upper Lee Valley to investigate ways to lessen the impact of the pylons and the over head lines on the regional park and the views across the Upper Lee Valley.'

3 The GLA submitted a relevant representation to the Planning Inspectorate in November 2013. This set out the following:

The GLA welcome the principle of National Grid's initiative to reinforce London's electricity supply capacity which is crucial in supporting London's growth.

However with regards to the detail we draw your attention to TfL's representation, which is supported by the GLA, in relation to the impacts of the proposal on Crossrail 2 safeguarding and bus operations. This has been submitted separately.

In addition GLA encourage National Grid to consult further with the Mayor's decentralised energy (DE) team which is helping others develop their larger scale district energy projects. We are assisting the London Boroughs of Enfield, Haringey and Waltham Forest in the development of an area-wide district heating network (the Lea Valley Heat Network) supplied from various heat sources including the near by Edmonton energy from waste plant. One of the proposed district heating networks (buried insulated steel pipework) may run close to the Tottenham By-pass project. We would like to understand if there are common network installation routes and also the potential for heat off-take from the new primary route to the transmission network (something which we are working with UKPN on at distribution network level).

4 The GLA has agreed with National Grid that the matters relating to the impacts of the proposal on Crossrail 2 safeguarding and bus operations can be taken forward by TfL and that the energy matter was for further discussion and joint working in the future rather than to be taken forward formally through the examination.

5 This report covers the elements of the scheme which are located in London.

Site description

6 The powerlines extend from the Waltham Cross substation in the district of Epping Forest, through Enfield and Waltham Forest to the Tottenham substation in Haringey. Its route follows the Lee Valley across lakes and through marshes, along the edges of reservoirs and through recreational open space. This recreational open space is adjacent to both industrial uses and residential areas.

7 The existing substation at Brimsdown lies within the London Borough of Enfield between Mollison Avenue (A1055) and the King George V Reservoir. The surrounding area contains a mixture of large scale industrial buildings extending south between the reservoir and the A1055, residential land uses located to the north around Enfield Lock and public open space within the Lee Valley Regional Park (specifically the Prince of Wales Field) located immediately north-east of the sub-station.

8 Pylon ZBC 19 is located immediately south of the Prince of Wales Field beyond a dismantled railway, and on land which is bound on its eastern side by the River Lee Navigation. The Brimsdown substation is separated from the Prince of Wales field and ZBC 19 by the Small River Lee to the west of the playing field, which meets the River Lee Navigation at the south-

eastern corner of the site. A section of the London Loop Walk traverses the northern boundary of the Prince of Wales Field.

9 The Tottenham substation lies within the Lee Valley to the east of the A1055 and immediately west of the Lee Valley Regional Park (LVRP) and Banbury reservoir. Large scale industrial and retail land uses extend to the north and south of the sub-station and to the railway line in the west, beyond the railway line lies the residential areas of Tottenham. Much of the route lies within the boundary of the Lee Valley Regional PARK (LVRP). The LVRP Authority is a statutory body responsible for managing and developing the regional park.

Details of the proposal

10 To replace and maintain an existing section of 275kV overhead power line with a 400kV overhead line and to undertake works to the associated substations at Waltham Cross, Brimsdown and Tottenham. This is designed to help facilitate the increased flow of electricity into London. There are two main elements to the proposed works: the uprating of the existing 275 kV ZBC route to 400 kV (from Waltham Cross substation in Epping Forest District Council, through Enfield and Waltham Forest, to Tottenham sub-station in Haringey- a length of approximately 14km) and works to bypass Tottenham substation with a section of underground cable in the Tottenham Marshes area. The powerline uprating will continue onto the Hackney sub-station but this work does not require consent as it was consented in the 1960's and the permissions is still valid.

11 Works include the following:

Works to facilitate up-rating

- A new pylon to replace existing pylon 4ZM 1 (which is within the proposed Waltham Cross substation extension area);
- A new pylon to replace existing pylons ZBC 1 and ZBC 1A directly to the south of Waltham Cross substation;
- Removal of the cable connection at pylon ZBC 290 and the construction of new cable sealing compounds at pylon ZBC 19 near Brimsdown substation;

Bypass at Tottenham sub-station

- Demolition of part of an existing bus depot building near Tottenham substation to accommodate the construction of a new cable sealing end compound adjacent to pylon ZBC 43;
- Two new cable bridges to cross Pymme's Brook at Tottenham;
- Undergrounding a section of the overhead line at Tottenham Marshes;
- A new pylon to replace pylon VC 1, along with a new cable sealing end compound;

Substation works at Waltham Cross

- Construction of a new gas insulated switchgear;
- Decommissioning of the existing 275kV equipment;

Substation works at Brimsdown

- Removal of the existing four super grid transformers (SGT);
- Erection of two replacement SGT's on land adjacent to the existing substation;
- Diverting a footpath to the south east;
- Construction of a sold wall 56 metres in length and 9 metres in height;
- Removal of the cable connection to Brimsdown substation via a new cable bridge, which will also offer new vehicular access.

12 The North London Reinforcement Project includes the installation of an 'electric line' above ground, which is designated as a Nationally Significant Infrastructure Project (NSIP) under Part 3, Section 14(1)(b) of the Planning Act 2008. As such the applicant must submit a draft development consent order (DCO) for examination. If made by the Secretary of State this draft DCO will become a statutory instrument which will set out what development is consented and the requirements the applicant must comply with during construction and operation. The DCO will also grant the applicant powers of compulsory acquisition for land requires for the authorised works.

13 If the DCO application is successful construction is anticipated to begin in early 2014 with the reconductoring works (replacement of overhead wires) taking place in 2015 and 2016. Works at the substation sites and at Tottenham Marshes will take place over different timescales between 2014 and 2016.

Planning history

14 The ZBC and VC overhead powerlines and associated substations were granted consent under the Electricity Acts 1947 and 1957 and Electricity (Supply) Acts 1882-1936.

15 The Brimsdown to Waltham Abbey 275 kV line (part of the ZBC route) was consented under the Electricity Acts on 9 October 1963. The Tottenham to Hackney line was consented on 30 March 1967.

Strategic planning issues and relevant policies and guidance

16 The relevant issues and corresponding policies are as follows:

- Principle of development *London Plan;*
- Green Belt/MOL *London Plan;*
- Biodiversity *London Plan; the Mayor's Biodiversity Strategy;*
- Ambient noise *London Plan; the Mayor's Ambient Noise Strategy;*
- Energy *London Plan; National Planning Policy Statement for Energy; National Planning Policy Statement for Electricity Networks Infrastructure;*
- Transport *London Plan; Land for Industry and Transport SPG*
- Flooding *London Plan.*

17 For the purposes of Section 38(6) of the Planning and Compulsory Purchase Act 2004, the development plans in force for the area are the 2013 Haringey Local Plan (formerly the Core Strategy), the 2010 Enfield Core Strategy and the 2012 Waltham Forest Core Strategy, the saved policies of the Haringey, Enfield and Waltham Forest Unitary Development Plans and the 2011 London Plan.

18 The following are also relevant material considerations:

- The National Planning Policy Framework and Technical Guide to the National Planning Policy Framework.
- The Draft Haringey Development Management DPD, the Proposed Submission Enfield Development Management DPD and the Waltham Forest Development Management DPD (submission version).
- The draft Upper Lea Valley Opportunity Area Planning Framework.
- The draft Revised Early Minor Alteration to the London Plan.
- The draft Meridian Water Supplementary Planning Document, 2012.
- A plan for Tottenham, joint Haringey Council and Mayor of London document.
- The LVRPA Park Plan(2000) and the Thematic Proposals (2011) Area Proposals of the Park Development Framework (2011 and 2013)

Principle of development

19 Given the predicted increase in demand in the Greater London region, there is a need to increase the flow of power into London through the uprating of the existing overhead lines, the upgrading of existing substations and the bypass of overhead lines at the Tottenham substation. This proposal seeks to facilitate the increased flow of power into London. This requires National Grid to upgrade the existing substations at Waltham Cross, Brimsdown and Tottenham and upgrade the existing over head power lines which run between them.

20 The National Planning Policy Statement for Energy (NPS EN-1) recognises that the new electricity generating infrastructure that the UK requires to move to a low carbon economy whilst maintaining security of supply will be heavily dependent on the availability of a fit for purpose and robust electricity network. That network will be able to support a more complex system of supply and demand than currently and cope with generation occurring in more diverse locations. It also sets out that in doing this it is important that the planning system ensures that development consent decisions take account of the views of affected communities and respect the principles of sustainable development.

21 NPS EN-1 provides criteria for the Planning Inspectorate to judge what is good design when assessing applications for infrastructure. It sets out that infrastructure should be sustainable, sensitive to place, efficient in the use of natural resources and energy and demonstrate good aesthetics as much as possible. However, it recognises that the applicant may have limited choice in the physical appearance of some energy infrastructure.

22 The majority of the overhead power lines and the substations at Tottenham and Brimsdown are located within the Upper Lee Valley (ULV) Opportunity Area identified in the London Plan and supported by London Plan policy 2.13. Paragraph 2.58 of the London Plan states that planning frameworks for opportunity areas should focus on implementation, identifying both the opportunities and challenges that need resolving such as land use, infrastructure, access, energy requirements, spatial integration, regeneration, investment land assembly and phasing.

23 The Upper Lee Valley has the potential to become an exemplar green Lee Valley, supporting sustainable communities – a place of extensive and fully accessible green open spaces; well designed eco-homes served from renewable or low carbon sources; integrated, sustainable transport networks; and a place to develop a green industries hub creating greater learning and employment opportunities. One of the key development principles for the ULV opportunity area is the utilisation of the Lee Valley Regional Park. Opening up the unique landscape of river, reservoirs and open spaces will not only provide existing and new residents and businesses with high quality open space; it will also reinforce the unique setting and identity of the Upper Lee Valley. Another key issue is the delivery of significant new residential communities which is to a degree dependent on the provision of a high quality environment as well as a robust electricity supply.

24 The existing over head lines run through most of the Lee Valley Regional Park and the Opportunity Area on highly visible pylons and whilst it is disappointing that they are not being replaced with more aesthetically pleasing and innovative pylons as was suggested at the pre-consultation stage it is accepted that the cost constraints of the project did not allow for this. The redesign of the project in response to local representations to reduce the impact on Tottenham Marshes and the Lee Valley Regional Park is welcomed. The corresponding issue relating to the loss of the bus garage has a number of local impacts which are dealt with below.

25 Summaries of the representations of Haringey, Enfield and the Lee Valley Regional Park are set out as follows.

26 Haringey Council raised the following issues in its relevant representation: the impact of the loss of the bus garage on local employment and bus services which are needed to support the regeneration of Tottenham, the impact of the construction works on Sites of Nature Conservation Importance and Greenbelt and the need for sufficient restoration works to these areas. In February 2013 Haringey Council wrote separately to National Grid setting out the Council's most recent plans for the regeneration of Tottenham as set out in 'A Plan for Tottenham'. Haringey Council expressed concerns about the potential impact of the bus garage relocation on regeneration plans and land in Tottenham, and suggested that an option of continued use of the Leaside Road site as a bus depot should be considered after the construction work is completed.

27 Enfield Council raised the following issues in its relevant representation: amendments to the DCO and appropriate mitigation are needed to reduce the impact of the development on the following:

- The environment and nature conservation, including trees and landscape
- Highways, rights of way, footpaths and streets
- The visual impact of the proposed expansion of Brimsdown substation
- Delivery of regeneration in Meridian Water

28 The Lee Valley Regional Park Authority has expressed concerns about the scale of the proposed works. It sets out that although it has agreed an ecological mitigation package with the applicant there still remain some specific concerns. It has concerns regarding impact of construction and in particular with regard to the impact on the use of the park to generate income streams. Particular concern is expressed over potential impact on the 2015 Canoe World Slalom Championships at the Lea Valley White Water Centre.

29 The NPS for Electricity Networks Infrastructure (EN-5) sets out additional technology specific considerations on the generic impacts considered in EN-1. It sets out a need for the application to consider the likelihood of bird strike, that the cumulative impact of sub-stations and pylons in the landscape and visual amenity should be considered and that a noise assessment should be submitted. All of this work has been undertaken and is discussed below

30 The delivery of this project will have a positive impact on London's economy by safeguarding London's future electricity supply. It is in line with London Plan policy subject to the impacts set out below being satisfactorily dealt with.

Transport and impact on regeneration

Profile of Trips

31 Much of the site falls within the Upper Lee Valley Opportunity Area. Of all trips originating from the Upper Lee Valley, 39% are made by car or other private vehicles, above the London average of 37%. The walk/cycle mode share (32% of all trips) is lower than the London average (34%).

32 In the Upper Lee Valley alone, 15,700 new homes and 15,000 new jobs are planned to be delivered by 2031, as set out in the London Plan and the emerging Upper Lee Valley Opportunity Planning Framework (OAPF). The planned growth in the Upper Lee Valley could see an increase in population of 24% and in employment of 20% between 2007 and 2031, which would generate over a 20% increase in peak period trips to, from and within the valley. Adding these trips to the existing transport network, much of which currently operates at or near capacity, will lead to increasing road congestion and public transport crowding.

33 TfL therefore wishes to ensure that the impact of the application on the transport networks of the Upper Lee Valley is fully considered and appropriately mitigated.

London Buses

34 The proposed development will utilise land at Leaside Road currently used as a bus garage. Whilst TfL has neither a freehold nor leasehold interest in the site, it is currently occupied by a bus operator which operates bus routes on behalf of TfL. TfL understands that the operator has reached an agreement with the applicant to surrender its existing lease and vacate the site in order to facilitate the proposed development.

35 Under existing contracts with TfL, the site provides bus garaging facilities for 134 buses serving 11 routes throughout the London Boroughs of Barnet, Camden, Enfield, Hackney, Haringey, Haringey, Redbridge, Waltham Forest and Westminster, as well as Epping Forest District Council (routes 34, 192, 318, 379, 397, 444, W3, W6, W11, 341 and 657). The bus operator employs around 450 staff based at the site, either as bus drivers or support/maintenance employees.

36 TfL wishes to see bus garaging facilities, such as the one at Leaside Road, protected from development, reflecting the requirements of London Plan policies 6.1, 6.2 and 6.7, and policy SPG 16 of the Mayor's Land for Industry and Transport SPG. These policies and guidance reinforce the role of bus garaging facilities in allowing TfL, in partnership with operators, to provide the capacity required to support an efficient and sustainable bus network. The policies seek to ensure that there is no overall loss of bus garaging facilities.

37 The loss of the bus garage will result in longer 'empty' running of some of the bus services currently operating from Leaside Road which could add costs to the running of some of the individual bus routes. Given that the running of routes is subject to competitive tendering, TfL acknowledges that any additional cost incurred will be absorbed by the operator in the short term. Any long term increased costs associated with running these routes, however, will ultimately need to be absorbed by TfL. Furthermore, with fewer bus garages, TfL's ability to respond to changes in passenger demand arising from growth and development is significantly hindered.

38 TfL understands that no formal provision of replacement facilities has been agreed between the applicant and the bus operator, although it is likely that garaging facilities for some routes will be transferred to an existing site on Towpath Road, some 400m to the east, in the London Borough of Enfield. By virtue of this site's access from and distance to the above bus routes, it is not considered an appropriate replacement to the Leaside Road facility. This site also

lies within the London Borough of Enfield's 'Meridian Water' masterplan area. The draft masterplan (May 2012) allocates the parcel of land occupied by the Towpath Road site for housing, putting the bus facility at further risk in the future.

39 In summary, the proposed development will result in the loss of a bus garaging facility that is protected by strategic policy. This will increase the long term cost of running the bus network and limit the ability of the bus network to respond to change in demand. TfL does not consider an appropriate alternative facility has been provided. The local boroughs should work together to identify a long term alternative site, which does not prejudice either of their regeneration plans.

40 In addition further information should be provided as to the visual appearance of the site at Leaside after the works have finished and information on whether some of the site can be used for other purposes. The provision of this information could be secured in the DCO for approval by the borough at a later date.

Crossrail 2

41 A route referred to as the Chelsea-Hackney line has been safeguarded from development since 1991. The Secretary of State for Transport issued a Safeguarding Direction for the Chelsea-Hackney line which came into force on 30 June 2008, replacing an original direction issued in 1991. Notwithstanding this safeguarding, the preferred alignment for the project, now referred to as Crossrail 2, has yet to be decided.

42 TfL is currently consulting on possible options for Crossrail 2 alignments from 14 May until 2 August 2013, including an alignment option which utilises the current West Anglia Main Line, to the west of the application site. The broad programme for Crossrail 2, which is subject to change, is for the safeguarding to be revised in 2013/14 by the Secretary of State, an application to be submitted around 2019, construction to start around 2023 and for it to open around 2031.

43 As the preferred alignment for Crossrail 2 has yet to be decided, it is not possible to identify the way in which the proposal might interact with the Crossrail 2 project. In order to protect its undertaking however, TfL requires the Applicant to maintain engagement with TfL as necessary when progressing the application project, in line with London Plan policy 6.4.

Highways and Footways

44 The A10 Great Cambridge Road, A1010 Hertford Road and A1055 Meridian Way play important roles in connecting the communities of the Upper Lee Valley. Strategic roads such as these are subject to a wide range of competing demands.

45 The application proposes a number of temporary and permanent works and alterations to the highway network and rights of way, as well as temporary traffic management arrangements. These are likely to impact on traffic flows on parts of the Transport for London Road Network (TLRN) or at other parts of the local highway network where TfL has a responsibility for the operation of traffic signals. Such impacts could include conflict between construction vehicles and other road users, reduced highway capacity from the stopping up of individual traffic lanes and conflicts between the timing of works associated with the application project and other TfL priorities or routine maintenance works.

46 Whilst the transport assessment prepared in support of the application outlines in broad terms the likely impact of these, it is considered vital for further impact assessment to be completed by the applicant, in consultation with TfL, before such works are undertaken. This is necessary in the interests of ensuring that the full effects of the proposals on traffic management are identified and mitigated, that the Mayor's objective to smooth traffic flow on London's Roads is provided and that road network capacity is not adversely affected (London Plan policies 6.3, 6.7, 6.11 and 6.12).

47 Construction activity, including the use of articulated vehicles for the transportation of large loads, has the potential to impact on traffic flows, particularly on the A10, and may require

the temporary removal of street furniture. In line with London Plan policy 6.14, the applicant should ensure that freight movements are undertaken on key transport corridors and are managed in a sustainable fashion. Details of construction methodology should be agreed with TfL.

Biodiversity

48 The site includes the Lee Valley Special Protection Area (European significance), the Lee Valley Ramsar Site (worldwide significance), two Sites of Special Scientific Importance, the Lee Valley site of Metropolitan Importance for Nature Conservation and two sites of Borough Importance for Nature Conservation. The site contains both European protected species (bats) and nationally protected species (badgers, reptiles and breeding birds). Natural England sets out that the main issues raised by the application are direct impacts on the nature sites listed above, potential disturbance of wintering wildfowl in the SPA and Ramsar site and damage to the habitat that supports these wildfowl; killing injuring or disturbance of the protected species; and permanent loss of the Lee Valley South Local Wildlife site.

49 London Plan policy 7.19D indicates that such sites should be given protection commensurate with their importance. London Plan policy also sets out that if development is permitted the following hierarchy should apply: avoid adverse impact to the biodiversity interest; minimize impact and seek mitigation; only in exceptional cases where the benefits of the proposal clearly outweigh the biodiversity impacts, seek appropriate compensation.

50 The applicant has committed to producing an ecological management strategy prior to construction which will set out all measures proposed as mitigation and enhancement as well as measures necessary to prevent breaches in legislation in relation to protected species. Habitat enhancement and creation is also proposed outside of the application site in the Lee Valley. These matters should be secured in the DCO.

51 Natural England has assessed the proposals and has no objection to the application. It sets out that there would be no significant effect on the Special Protection Area or the SSI's and it believes that matters relating to protected species can be dealt with through the DCO.

52 GLA officers have not located information within the application documentation on bird strike (collision) and this should be assessed.

53 At this stage the GLA are content that the application meets London Plan policy, subject to satisfactory bird strike information. Natural England should continue to advise on the details of the project going forward.

Noise

54 The applicant sets out that overhead lines are designed to operate quietly in dry weather conditions and the noise assessment sets out that in dry weather the operational noise levels are likely to be inaudible above the background noise levels. 400kV overhead lines can produce audible noise in wet weather conditions. The noise assessment sets out that for properties within 200m of the overhead line noise would be difficult to perceive but a perceptible change in noise may be experienced in properties within 60m of the overhead line. However it sets out that the effects are not likely to be significant. The applicant should set out how many properties are within 60m of the powerlines and where these are located.

Impact on open space, recreation and Green Belt

55 There will be a temporary impact on users of the open spaces affected by the proposal as there are a number of temporary closures of footpaths, fisheries, allotments and car parks. The applicant has attempted to minimise disruption by making closures for as short a period as possible and by providing alternative routes. This is considered acceptable given the importance of the project. Of particular concern however is the potential impact on the use of the Showground in the

Lee Valley Regional Park. The applicant should work with the Park Authority to resolve this, particularly in relation to the potential impact on the 2015 Canoe Slalom World Championships.

56 Policy 7.16 of the London Plan accords the highest protection to Green Belt and sets out that inappropriate development should be refused.

57 The proposal includes the construction of a wall, which would be 9m in height. The wall follows part of the new extended boundary to Brimsdown substation and is adjacent to the diverted footpath. Enfield Council has concerns regarding the visual impact of the proposed wall and is keen to ensure that regeneration objectives for the Upper Lee Valley, including improving access to the unique landscape of the Lee Valley Park, for residents and businesses, are achieved. In addition to this, Enfield Council is concerned with the extent of tree and vegetation removal and any effects this may have on the ecological value and landscape character.

58 It is understood that the applicant intends to provide replacement land to the north of King George V reservoir as compensation for land lost through the redevelopment of the substations. It is understood that LVRP's independent consultants have advised it, via a preliminary risk assessment report, that the replacement land at Brimsdown acquired from Thames Water Utilities is low risk. Therefore the land is considered acceptable as part of the compensation for land acquired by National Grid as part of the NLRP.

Heritage

59 The Brimsdown substation is in close proximity to the Enfield Lock Conservation Area. In addition to the concerns raised by Enfield at paragraph 58 above, English Heritage require further details of the works to the substation and raise an issue with the visual impact of the sealing compounds around the pylons close to Brimsdown substation. Enfield Council has requested that a requirement be included in the DCO that further details of this work is submitted to the Council to be agreed in writing. This provision should be included to ensure there is no negative impact on the conservation area.

Flooding

60 The flood risk assessment sets out that the proposal will not have a negative impact on flooding in the area. However, the applicant should confirm that the works will not prejudice the use of Land south of William Girling reservoir as potential flood storage for Meridian Water.

Conclusion

61 The strategic impacts are as follows:

- Loss of bus garage and consequent impact on bus services;
- Impact of construction;
- Visual impact of substations and associated works;
- Biodiversity impact, particularly on protected species;
- Noise;
- Impact on open space, recreation and Green Belt;
- Impact on flooding.

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