North London Reinforcement Project

Application for Non-Material Change to National Grid (North London Reinforcement Project) Order 2014 (SI1052)

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Executive Summary

Ex1.0.1 This Supporting Statement has been prepared to support an application for Non-Material Changes to the National Grid (North London Reinforcement Project) Order 2014 (reference SI 2014/1052) (the 2014 Order) to seek authorisation for changes to the design of certain works at Tottenham substation.

Ex1.0.2 As the UK moves away from fossil fuels and increases clean energy generation, the UK will be using more electricity than ever before. Demand for electricity is expected to increase by 50% by 2035 and double by 2050. Significant new infrastructure is therefore needed to connect this clean energy from where it's generated to where it's needed.

Ex1.0.3 The Great Grid Upgrade is NGET's programme to modernise and expand Britain's high-voltage electricity network. It comprises 17 major infrastructure projects that play a vital part in achieving the UK Government's ambition of connecting 50GW of offshore wind by 2030 and will be delivered under Ofgem's Accelerated Strategic Transmission Investment (ASTI) framework.

Ex1.0.4 The North London Reinforcement Project (NLRP) is one of the 17 ASTI projects and is a crucial component of the Great Grid Upgrade, aimed at enhancing the electricity transmission network in London and the surrounding areas. The NLRP consists of the refurbishment of an existing 400kV overhead line (OHL) (the 4ZM OHL) and the uprating of two existing overhead lines (the VC and the ZBC OHLs) from a voltage of 275kV to 400kV. Refurbishing and uprating the OHLs would also require works at substations along the route.

Ex1.0.5 The need for the NLRP, and therefore the non-material change application, is supported by Government policy. NPS EN-1 establishes that there is a significant and urgent need to deliver new energy infrastructure in order to provide a secure, reliable and affordable supply of energy; meet the Government's decarbonisation targets; support economic growth; boost productivity and competitiveness; and support economic prosperity and social well-being.

Ex1.0.6 NPS EN-5 applies to infrastructure for electricity networks. It highlights the importance of these networks in supporting new low carbon electricity generation. Specifically, it sets out that "*all power lines in scope of EN-5 including electricity network reinforcement and upgrade works, and associated infrastructure such as substations, are considered to be CNP infrastructure*".

Ex1.0.7 The 2014 Order provides NGET with statutory authority to construct, operate and maintain the ZBC OHL elements of the NLRP. The 2014 Order authorises works to bypass Tottenham substation with a section of underground cable in the Tottenham Marshes area. These works are contained within Work Nos. 10 and 11 in Schedule 1 to the 2014 Order. As the NLRP has moved into delivery, NGET has been developing detailed designs for the Tottenham underground cable bypass and has identified that it cannot be constructed within the Order Limits of the 2014 Order as originally planned.

Ex1.0.8 Following consideration of design alternatives NGET has identified a preferred bypass solution being a short section of OHL spanning over the existing substation building. This solution can be delivered without requiring the compulsory acquisition of additional

land interests. It also minimises impacts on third party assets within the vicinity of the substation and reduces land take within Lee Valley Regional Park.

Ex1.0.9 This Supporting Statement sets out the detail of, and the needs case for, the following five proposed changes (the Proposed Changes) for an OHL bypass of Tottenham substation:

- Proposed Change 1: Amendment of design of transmission pylon VC1R;
- Proposed Change 2: Installation of a new transmission pylon ZBC44;
- Proposed Change 3: Installation of two spans of new 400kV overhead line (OHL);
- Proposed Change 4: Minor extension to the Order Limits; and
- Proposed Change 5: Removal of authorised development relating to underground cable bypass of Tottenham substation.

Ex1.0.10 It also identifies any impacts on land from the Proposed Changes and documents the assessment of change (AoC) (see Appendix B) of the Proposed Changes.

Ex1.0.11 An AoC has been undertaken for each environmental topic as included within the Environmental Statement submitted as part of the application for the 2014 Order (Amec, 2012) (the ES). The AoC considers whether the Proposed Changes give rise to any materially new or materially different significant environmental effects compared to those reported in the ES. As well as considering the Proposed Changes in view of the conclusions in the ES, the AoC includes consideration of any changes to the baseline environment and identifies any new receptors since the ES was produced.

Ex1.0.12 The overall conclusion of the AoC is that the Proposed Changes do not give rise to any materially new or materially different significant environmental effects to those reported within the ES. Further, the Proposed Changes also do not require additional compulsory acquisition of land or create any additional implications in respect of habitats regulation assessment (see Habitats Regulation Assessment 101786-004) also submitted in support of the non-material change application); therefore, NGET considers that the application is non-material in nature.

Ex1.0.13 This non-material change application is needed to ensure that the ZBC OHL can be uprated to 400kV to help increase transmission into Greater London as demand increases and is fully supported by Government policy given its purpose is to facilitate the urgent delivery of new electricity network infrastructure.

Ex1.0.14 NGET considers that due to the non-material nature of the Proposed Changes and the significant and urgent need to deliver new energy infrastructure in order to provide a secure, reliable and affordable supply of energy, the Secretary of State should grant the proposed amendment order sought through the non-material change application.

1. Introduction

1.1 Purpose of the Supporting Statement

1.1.1 This Supporting Statement has been prepared to accompany the submission of a Non-Material Change application (NMC-1) for changes to the National Grid (North London Reinforcement Project) Order (SI 2014/1052) (herein referred to as 'the 2014 Order').

1.1.2 National Grid Electricity Transmission Plc (NGET) is proposing the following five changes (the Proposed Changes) to authorise an overhead line (OHL) bypass of Tottenham substation:

- Proposed Change 1: Amendment of design of transmission pylon VC1R;
- Proposed Change 2: Installation of a new transmission pylon ZBC44;
- Proposed Change 3: Installation of two spans of new 400kV overhead line (OHL);
- Proposed Change 4: Minor extension to the Order Limits; and
- Proposed Change 5: Removal of authorised development relating to underground cable bypass of Tottenham substation.

1.1.3 The purpose of this Supporting Statement is to set out:

- the need for the changes to the 2014 Order;
- details of the Proposed Changes; and
- the findings of the Assessment of Change (AoC) undertaken in relation to the Proposed Changes to identify whether there are any materially new or materially different likely significant effects on the environment which will require an update to the Environmental Statement submitted as part of the application for the 2014 Order (Amec, 2012) (the ES).

2. Strategic Context and Needs Case for the Proposed Changes

2.1 Strategic context

North London Reinforcement Project background:

2.1.1 The transmission network in the wider London area feeds into the Greater London transmission ring, which is a 400/275kV ring of transmission circuits that run around and feed into the capital. The circuits around London facilitate power transfer in and out of the region, with power flow into the region primarily coming from sources of energy generation located in the Midlands, East Anglia, along the Thames Estuary and in Kent.

2.1.2 Due to an increase in demand for power in the Greater London region, and the need to accommodate increases in offshore wind generation in East Anglia, the transmission system in North London needs to be reinforced. Specifically, it is necessary to refurbish an existing 400kV overhead line (OHL) (4ZM OHL) and uprate two existing lines (the VC and the ZBC OHLs) from a voltage of 275kV up to 400kV and create one continuous route to carry this increased voltage. Refurbishing and uprating the OHLs would also require works at substations along the route. Collectively, the works required to refurbish the 4ZM OHL and uprate the VC and ZBC OHLs and associated substation works are referred to as the North London Reinforcement Project (NLRP), see Figure 1 for the extent of NLRP.

Figure 1 – NLRP Project Plan

2.1.3 Refurbishing the 4ZM OHL and uprating of the VC and ZBC OHLs for the NLRP have been consented under different consenting regimes. NGET has consent to uprate the existing VC OHL between Tottenham and Hackney under the original 1967 permission; consent under Section 37 of the Electricity Act 1989 was obtained in 2024 for the refurbishment of the 4ZM OHL; and the associated works needed at Pelham, Rye

House and Hackney substations, as shown on Figure 1 are proposed to be delivered under the Town and Country Planning Act 1990.

2.1.4 NGET secured consent under the Planning Act 2008, through the 2014 Order, for the uprating of 14km of the existing ZBC OHL from Waltham Cross substation in Epping Forest, through Enfield and then to Tottenham substation in Haringey from 275kV to 400kV. The 2014 Order also contained powers to carry out associated works to the substations at Waltham Cross, Brimsdown and Tottenham, see Figure 1.

2.1.5 The need for the NLRP (as set out in the Statement of Reasons submitted with the application for the 2014 Order) was as a critical power corridor servicing Greater London to transport predicted increased power flows in the region. However, a signal to 'delay' the NLRP was made in 2013 through the Network Development Policy (NDP) (which sets out where investment was needed to reinforce the transmission network to meet future demand) following the close of the examination into the application for the 2014 Order. The 2013 NDP signal followed the conclusions of the annual network analysis carried out by the Electricity System Operator (which became the 'National Energy System Operator' in 2024). The signal to delay was based on electricity demand forecasts and analysis of generation patterns carried out in 2013 which concluded there was no longer an urgent need for the NLRP. Electricity transmission costs are recovered from consumers and under Ofgem rules large onshore transmission investments cannot proceed unless there is an urgent need for the development. The NLRP was therefore put on hold after the 2014 Order was consented.

2.1.6 The NDP was replaced by the Network Options Assessment (NOA) in 2016 which was updated annually. In 2021 the NOA (NOA 6, January 2021), which was informed by updated electricity demand forecasts and changes to generation patterns, in particular a greater reliance on renewables issued the signal for the NLRP to 'proceed'.

2.1.7 NGET re-commenced work on the NLRP in 2021, and the final needs case was approved by Ofgem in July 2023.

UK Energy Policy & the Great Grid Upgrade

2.1.8 UK Energy Policy has evolved significantly since the 2014 Order was consented.

2.1.9 The Government is moving towards energy independence as it looks to fulfil its decarbonisation and climate change targets. Its objectives for the UK's power system include ensuring the supply of energy remains secure, reliable and affordable.

2.1.10 The Energy White Paper, published in December 2020, outlines a strategy to transform the energy system, tackling emissions while continuing to ensure secure and reliable supply, and affordable bills for households and businesses. This was built on by the Net Zero Strategy, published in October 2021, which set out a long-term plan for the economy-wide transition to net zero that will take place over the next three decades.

2.1.11 The British Energy Security Strategy (April 2022) states that "A*ccelerating our domestic supply of clean and affordable electricity also requires accelerating the connecting network infrastructure to support it*". As such, there is a need for an improved electricity transmission network to ensure that there is a safe and secure supply of energy. Powering Up Britain (March 2023) presents the Government's most up to date strategy for the energy sector, stating the Government's ambition is to double Britain's electricity generation capacity by the late 2030s.

2.1.12 Clean Power 2030 Action Plan: A new era of clean electricity (December 2024) sets out how the Government will deliver on the Prime Minister's Plan for Change to build an energy system that can bring down bills for households and businesses for good. The Action Plan makes clear that our grid infrastructure needs strengthening, and that Great Britain's electricity network must undergo unprecedented expansion, as the economy electrifies, to deliver decarbonisation, energy affordability and energy security, and support economic growth.

2.1.13 The National Energy System Operator (NESO) sets out future energy scenarios, which are a recognised suite of documents which indicate whether particular future pathways for electricity generation can be successful in line with current national policy targets.

2.1.14 In July 2022, the first transitional Centralised Strategic Network Plan (tCSNP) 'Pathway to 2030 Holistic Network Design' was published which set out a single, integrated approach that supports large scale delivery of electricity from offshore wind, to where it is needed across Great Britain. This is to help unlock the UK Government's ambition for 50GW of offshore wind by 2030.

2.1.15 In March 2024, the second transitional CSNP (tCSNP2) 'Beyond 2030' was published which establishes a national blueprint for a decarbonised electricity system in Great Britain recommending a coordinated offshore and onshore network design that can connect 86GW of offshore wind.

2.1.16 As the UK moves away from fossil fuels and increases clean energy generation, the UK will be using more electricity than ever before with demand for electricity expected to increase by 50% by 2035 and double by 2050. Significant new infrastructure is therefore needed to connect this clean energy from where it's generated to where it's needed. The Great Grid Upgrade is NGET's programme to modernise and expand Britain's high-voltage electricity network.

2.1.17 It comprises 17 major infrastructure projects that will extend the high-voltage power grid through the construction of new overhead lines, pylons, substations and subsea cables. These projects play a vital part in achieving the UK Government's ambition of connecting 50GW of offshore wind by 2030. They will be delivered under Ofgem's Accelerated Strategic Transmission Investment (ASTI) framework, which is part of the NESO's tCSNP.

2.1.18 The NLRP is one of the 17 ASTI projects and is a crucial component of the Great Grid Upgrade, aimed at enhancing the electricity transmission network in London and the surrounding areas. It will help increase transmission capacity to meet growing demand; support energy security; and ensure that London and the surrounding areas can connect to the renewable energy generated by offshore wind, solar, and other sources.

National Policy Statements

2.1.19 National Policy Statements (NPSs), which were updated in December 2025, provide the primary basis for decision making on Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008.

2.1.20 The following form the relevant NPSs with respect to the Proposed Changes:

- Overarching National Policy Statement for Energy (NPS EN-1), December 2025 (NPS EN-1);

- National Policy Statement for Electricity Networks Infrastructure (EN-5), December 2025 (NPS EN-5).

2.1.21 NPS EN-1 sets out the Government's policy for the delivery of major energy infrastructure in England and Wales. This includes new electricity network infrastructure and associated infrastructure such as substations.

2.1.22 It establishes that there is a significant and urgent need to deliver new energy infrastructure in order to: provide a secure, reliable and affordable supply of energy; meet the Government's decarbonisation targets; support economic growth; boost productivity and competitiveness; and support economic prosperity and social well-being.

2.1.23 In this context, paragraphs 3.2.8 to 3.2.9 of the NPS EN-1 states:

"The Secretary of State should assess all applications for development consent for the types of infrastructure covered by this NPS on the basis that the government has demonstrated that there is a need for those types of infrastructure which is urgent" and. "*In addition, the Secretary of State has determined that substantial weight should be given to this need when considering applications for development consent under the Planning Act 2008."*

2.1.24 NPS EN-1 establishes there is an urgent need for new electricity networks and at 3.3.65 - 3.366 it states:

"There is an urgent need for new electricity network infrastructure to be brought forward at pace to meet our energy objectives. The security and reliability of the UK's current and future energy supply is highly dependent on having an electricity network which will enable new renewable electricity generation, storage, and interconnection infrastructure that our country needs to meet the rapid increase in electricity demand required to transition to net zero while maintaining energy security. The delivery of this important infrastructure also needs to balance cost to consumers, accelerated timelines for delivery and the minimisation of community and environmental impacts."

2.1.25 And at paragraphs 3.3.85 it states:

"Given the urgent need for new electricity infrastructure and the time it takes for electricity NSIPs to move from design conception to operation, there is an urgent need for new (and particularly low carbon) electricity NSIPs to be brought forward as soon as possible, given the crucial role of electricity as the UK decarbonises its economy."

2.1.26 At 4.2 NSP EN-1 establishes the critical national priority (CNP) for low carbon infrastructure required to achieve the Government's Clean Power 2030 Mission.

2.1.27 NPS EN-5 applies to infrastructure for electricity networks, including above ground electricity lines with a voltage of 132 kV or higher and whose length is greater than 2km.

2.1.28 It highlights the importance of electricity networks in supporting the new low carbon electricity generation infrastructure the UK needs to transition to net zero.

2.1.29 At 2.1.5 NPS EN-5 states:

".. to support the urgent need for new low carbon infrastructure, all power lines in scope of EN-5 including electricity network reinforcement and upgrade works, and associated infrastructure such as substations, are considered to be CNP infrastructure. This is not limited to those associated specifically with a particular generation technology, as all

new grid projects will contribute towards greater efficiency in constructing, operating and connecting low carbon infrastructure to the National Electricity Transmission System".

2.2 Needs case for the Proposed Change

2.2.1 Following Ofgem's approval of the NLRP Final Needs Case in July 2023, a design review of the consented scheme was commissioned in 2024 to inform detailed design.

2.2.2 The NLRP does not propose to uprate Tottenham substation which will continue to operate at 275kV and supply key areas of London. The uprated 400kV ZBC overhead line therefore needs to bypass around the substation.

2.2.3 The Tottenham bypass will connect the uprated ZBC and VC overhead lines together and is therefore the lynch pin to connect the two uprated lines to create a single continuous 400kV line from Pelham substation to Hackney substation as shown on Figure 1 above, enabling power to flow into Greater London.

2.2.4 The 2014 Order granted consent for an underground cable bypass of Tottenham substation. A new cable sealing end compound was proposed to be constructed on bus depot land adjacent to the substation, with a replacement pylon VC 1, along with construction of a second cable sealing end compound on land within the Lee Valley Regional Park (LVRP) to the south of the substation. Two cable bridges were proposed to cross over Pymmes Brook, and underground cables were proposed to be laid in the LVRP to the east.

2.2.5 Since 2012, National Grid Technical Specifications for installation of high voltage underground cables have been updated and the specification of 400kV cables currently on the market are different to assumptions made at the time of the 2014 Order regarding the cable dimensions.

2.2.6 Following the design review carried out in 2024, it was concluded that the consented underground cable bypass arrangement from ZBC43 cable sealing end to VC1R cable sealing end could not be feasibly accommodated within the Order limits due to:

- National Grid Technical Specifications requiring two cables per phase to be installed (twelve cables in total). Due to thermal loading, adequate separation distance between cables needs to be achieved and there is insufficient space available within the consented Order limits to facilitate this; and
- The extreme cable bending radius required to fit the underground cable bypass within the Order limits, which cables currently available on the market could not achieve.

2.2.7 An optioneering exercise was commissioned in 2025 to identify alternative underground cable bypass options. Seven alternative underground cable bypass options were identified, with each presenting technical and environmental challenges including:

- A requirement for a larger cable corridor to accommodate the necessary two cables per phase; the clearances required between the cables; and the bending radius; resulting in more land rights and a wider swathe of vegetation clearance in LVRP being needed.
- Complex solutions to cross Pymmes Brook as cable bridges would need to be altered and / or relocated, which may impact on the Environment Agency's ability to

access and maintain the watercourse (noting that the section of Pymmes Brook to be crossed runs through an engineered concrete channel).

- Extensive enabling works to be carried out to overcome interactions with existing NGET and third party assets (sewers, water pipes and electricity infrastructure), including the need to divert existing assets to accommodate the underground cable bypass (most notably diversion of a 132kV distribution supply electricity cable); planned works to install new 33kV electricity cables to connect Meridan Waters development to the distribution network would also be impacted and would require UKPN (the Distribution Network Operator) to devise an alternative route for the planned 33kV cable.

2.2.8 Each of the alternative underground cable bypass options were considered to be environmentally and technically challenging and would have required additional land and rights within the LVRP to be acquired; new rights for altered cable bridge crossings over Pymmes Brook; extensive enabling works to divert third party assets; and much more extensive vegetation clearance in the LVRP.

2.2.9 In view of these predicted impacts, NGET decided to review other technology options to bypass Tottenham substation.

2.2.10 Following further optioneering, a technically feasible OHL bypass solution was identified, which, when compared to the alternative underground cable bypass options would minimise the interaction with LVRP; reduce interaction with third party assets; and could be delivered more economically and efficiently, contributing to the delivery of Clean Power 2030 targets.

2.2.11 Having regard to the statutory duty to deliver an economic, efficient and coordinated network; achieve best value to the consumer; and comply with the duties laid out under Schedule 9 of the Electricity Act 1989 to preserve amenity, NGET has concluded that an OHL bypass of Tottenham substation is the preferred solution.

3. Proposed Changes/Nature of the Change

3.1 Proposed Changes

3.1.1 To facilitate an OHL bypass of Tottenham substation, NGET proposes to make five changes to the 2014 Order as set out below (the Proposed Changes). These Proposed Changes are shown in the Concept Plan (drawing reference 30302490-ARC-EGN-ZZ-DR-ZZ-00001-S2) in Appendix A.

Proposed Change 1: Amendment of design of transmission pylon VC1R

3.1.2 To facilitate an OHL bypass of Tottenham Substation, transmission pylon VC1R consented under **Work No. 11** of the 2014 Order will need to be increased in height to allow sufficient safety clearances of the substation. The plans and sections certified under Article 43 of the 2014 Order show transmission pylon VC1R at a height of 46.3m (not including the 3m limit of deviation). Proposed Change 1 is to increase the height of transmission pylon VC1R to 62m (not including the 3m limits of deviation). This is an increase in height of 15.7m.

3.1.3 Proposed Change 1 requires an amendment to the relevant plans and design drawings certified under Article 43 of the 2014 Order. The amendments needed to **Work No. 11** are captured by Proposed Change 5.

3.1.4 The proposed new design for an OHL bypass would also involve consented (but not yet built) pylon VC1R being installed approximately 17m southwest of the location shown on the 2014 certified plans, although the new location lies within the original limits of deviation for **Work No. 11.**

Proposed Change 2: Installation of a new transmission pylon ZBC44

3.1.5 To facilitate an OHL bypass of Tottenham Substation, Proposed Change 2 relates to the installation of a new transmission pylon – ZBC44 - at a height of 61m (not including the 3m limits of deviation) within the Order Limits and on land owned by NGET.

3.1.6 This change requires amendments to the description of **Work No. 10** in Schedule 1 to the 2014 Order and to the relevant plans and design drawings certified under Article 43 of the 2014 Order.

Proposed Change 3: Installation of two spans of new 400kV overhead line

3.1.7 To facilitate an OHL bypass of Tottenham Substation, Proposed Change 3 is for the installation of two short sections of new 400kV OHL comprising new phase and earthwire conductors, insulators and fittings to connect:

- Transmission pylon ZBC43 to new transmission pylon ZBC44 (Proposed Change 2), approximately 55m in length; and
- Transmission pylon VC1R (Proposed Change 1) to new transmission pylon ZBC44 (Proposed Change 2), approximately 260m in length.

3.1.8 This change requires amendment of the description of **Work No. 10** in Schedule 1 and to the relevant plans and design drawings certified under Article 43 of the 2014 Order

Proposed Change 4: Minor extension to the Order Limits

3.1.9 To facilitate an OHL bypass of Tottenham Substation, Proposed Change 4 would involve a minor extension to the 2014 Order Limits. The proposed new section of OHL between new transmission pylon VC1R and the new transmission pylon ZBC44 (Proposed Change 3) will span over the southeastern corner of the Tottenham substation building which lies to the north of transmission pylon VC1R.

3.1.10 Tottenham substation is owned by NGET and leased to a Distribution Network Operator (DNO). The Order Limits will be extended to include the part of the substation building over which the proposed new section of OHL will span.

3.1.11 This change requires the replacement and amendment of the relevant plans and design drawings certified under Article 43 of the 2014 Order.

Proposed Change 5: Removal of authorised development relating to underground cable bypass of Tottenham substation

3.1.12 As an OHL bypass of Tottenham substation is now proposed instead of an underground cable bypass, this change would amend Schedule 1 of the 2014 Order to remove from the authorised development any works relating to the underground cable bypass. Change 5 will omit the following authorised works under Work No. 10 relating to the underground bypass:

- **Work No. 10 (b)** Installation of a new phase and earthwire conductors to gantries within new northern cable sealine end compound and removal of existing cables connecting ZBC43 to Tottenham substation;
- **Work No. 10 (c)** Installation of new sealing end compounds at pylons ZBC43 and VC1R.
- **Work No. 10 (d)** The installation of up to twelve 400kV cables predominantly underground from the northern cable sealing end compound at transmission pylon ZBC43 to the southern sealing end compound at transmission pylon VC1R; and
- **Work No. 10 (e)** Installation of two cable bridges across Pymmes Brook."

3.1.13 The proposed southern end sealing compound required for the underground cable bypass will also no longer be needed and therefore this change will also require an amendment to **Work No.11** in the 2014 Order to omit the following:

3.1.14 "....and new connections from pylon VC1R to the gantries in the new southern cable sealing end compound".

3.1.15 Proposed Change 5 also requires amendment of the relevant plans and design drawings certified under Article 43 of the 2014 Order.

3.2 Impact on Land from Proposed Changes

3.2.1 NGET is not seeking compulsory acquisition powers as part of the NMC-1 application.

3.2.2 NGET owns Tottenham Substation and a significant proportion of the land in its immediate vicinity. The draft Amendment Order submitted with this NMC-1 application would amend Work Nos 10 and 11 in Schedule 1 (authorised development) of the 2014 Order to authorise the proposed OHL bypass of Tottenham Substation. Amended Work Nos 10 and 11 will be located between the existing pylon ZBC43 to the north, to the consented, but not yet built, pylon VC1R to the south. The vast majority of these works will take place on land owned by NGET. The following plot numbers shown on the replacement land plan submitted with this NMC-1 application will be affected by the amended Work Nos 10 and 11: 380, 383, 383A, 384, 387, 387A, 388 and 390.

3.2.3 The only plot number affected by the Proposed Changes located on land which NGET does not own is plot 390, in which pylon VC1R will be located. The proposed works require the consented, but not yet built, pylon VC1R to be relocated and installed approximately 17m southwest of the location shown on the 2014 certified plans, within the limits of deviation authorised by the 2014 Order, to allow sufficient safety clearances of Tottenham substation.

3.2.4 The originally intended location of pylon VC1R was within plot 388, as shown on the 2014 certified land plans. Following the proposed re-location, Pylon VC1R and a small section of the proposed OHL connecting into Pylon VC1R would instead be located within the adjacent plot 390. Plot 390 comprises land owned by the Lee Valley Regional Park Authority (LVRPA). The revised location of pylon VC1R therefore moves pylon VC1R from land owned by NGET, and onto land owned by LVRPA.

3.2.5 However, NGET has already acquired permanent rights over plot 390, namely “overhead rights” and “overhead restrictions”. These rights were acquired by means of a General Vesting Declaration (GVD), made in exercise of NGET’s powers under Article 25 of the 2014 Order to compulsorily acquire rights over land within the Order Limits. The GVD was executed on 25 January 2019.

3.2.6 The rights secured over Plot 390 enable NGET install and maintain overhead “electric lines” over land. “Electric lines” is widely defined, and includes pylons. NGET is in ongoing discussions with LVRPA given the proposed relocation of pylon VC1R.

3.2.7 Proposed Change 4 will involve a minor extension of the Order Limits, to accommodate the proposed OHL oversail of Tottenham Substation and ensure the benefits from the development consent that the Amendment Order would confer. NGET owns Tottenham Substation. The area over which the extension of the Order Limits takes effect is shown and labelled as new Plot 383 on the replacement land plan submitted with this NMC-1 application. It is currently subject to a lease to a DNO and NGET is currently discussing with the DNO a variation to these lease arrangements to reflect the proposed OHL oversail.

3.2.8 NGET is not seeking any land acquisition powers in respect of the land to be added to the Order Limits under Proposed Change 4. Accordingly, wording has been added to the draft Amendment Order submitted with the NMC-1 application to ensure that NGET’s subsisting land powers do not apply to new plot 383A.

3.3 Amended and Replaced Certified Plans

3.3.1 Tables 1 and 2 below list the plans certified under Article 43 of the 2014 Order that are proposed to be amended (Table 1) or replaced (Table 2) to accommodate the Proposed Changes:

Table 1 Amended Certified Plans

Certified Plans	Certified Plan Name	Amended Plans included in the NMC-1	Summary of amendments made and related Proposed Changes
A1/PTD/6283/92 (rev D)	National Grid (North London Reinforcement Project) Order Works Plans (Regulation 5 (2) (j) London Borough of Haringey Sheet 10 of 10	A1/PTD/6283/92 (rev E)	Order Limits amended, new pylon locations added, centre line of new OHL added and underground by-pass removed. Proposed Changes 1, 2, 3, 4 and 5.
A1/PTD/6283/027 (rev D)	National Grid (North London Reinforcement Project) Order Key Plan for Access / Rights of Way Plans (Regulation 5 (2) (k))	A1/PTD/6283/027 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.
A1/PTD/6283/102 (rev D)	National Grid (North London Reinforcement Project) Order Access / Rights of Way Plans (Regulation 5 (2) (k)) London Borough of Haringey Sheet 10 of 10	A1/PTD/6283/102 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.
WALX4-00-N0-032 (rev C)	National Grid (North London Reinforcement Project) Order Design Drawings (Regulation 5 (2) (o)) Key Plan	WALX4-00-N0-032 (rev D)	Order Limits amended and pylon locations indicated. Proposed Change 4.
A1/PTD/6283/136 (rev D)	National Grid (North London Reinforcement Project) Order Key Plan for Land Affected Plans (Regulation 5 (2) (i) (i))	A1/PTD/6283/136 (rev E)	Order Limits amended and pylon locations indicated. Proposed Change 4.
A1/PTD/6283/112 (rev D)	National Grid (North London Reinforcement Project) Order Land Affected Plans (Regulation 5 (2) (i) (i)) London Borough of Haringey Sheet 10 of 10	A1/PTD/6283/112 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.
A1/PTD/6283/020 (rev D)	National Grid (North London Reinforcement Project) Order Key Plan for Land Plans (Regulation 5 (2) (i) (ii))	A1/PTD/6283/020 (rev E)	Order Limits amended and pylon locations indicated. Proposed Change 4.

Certified Plans	Certified Plan Name	Amended Plans included in the NMC-1	Summary of amendments made and related Proposed Changes
A1/PTD/6283/23 (rev D)	National Grid (North London Reinforcement Project) Order Land Plans (Regulation 5 (2) (i) (ii)) London Borough of Haringey Sheet 10 of 10	A1/PTD/6283/23 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.
A1/PTD/6283/137 (rev D)	National Grid (North London Reinforcement Project) Order Key Plan for Special Category Land / Replacement Land Plans (Regulation 5 (2) (i) (iv))	A1/PTD/6283/137 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.
A1/PTD/6283/132 (rev D)	National Grid (North London Reinforcement Project) Order Special Category Land / Replacement Land Plans (Regulation 5 (2) (i) (iv)) London Borough of Haringey Sheet 10 of 10	A1/PTD/6283/132 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.
A1/PTD/6283/021 (rev D)	National Grid (North London Reinforcement Project) Order Key Plan for Works Plans (Regulation 5 (2) (j)).	A1/PTD/6283/021 (rev E)	Order Limits amended and pylon locations indicated. Proposed Changes 1, 2 and 4.

Table 2 Replacement certified plans

Certified Plans	Certified Plan Name	Replacement Plans included in the NMC-1	Replacement Plan Name	Summary of Proposed Changes
PN/CSED/8107 (issue M)	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o)) Sheet 11 of 14 London Borough of Haringey - 400kV Cable Route & ODSE Compound Layout Tottenham	2634035/5110	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o)) Sheet 11 of 14 – Tottenham Substation 400kV Overhead Line Bypass Layout Plan	The 4 certified design drawings have been replaced with new drawings, showing updated design.

Certified Plans	Certified Plan Name	Replacement Plans included in the NMC-1	Replacement Plan Name	Summary of Proposed Changes
PN/CSED/8107 (issue H)	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o) Sheet 12 of 14 London Borough of Haringey - ODSE Compound Sections Tottenham	2634035/5110	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o)) Sheet 12 of 14 – Tottenham Substation 400kV Overhead Line Bypass Layout Plan	
PN/CSED/8111 (issue H)	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o)) Sheet 13 of 14 London Borough of Haringey - G.A of Cable Bridge Tottenham	2634035/5110	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o)) Sheet 13 of 14 London Borough of Haringey – Tottenham Substation 400kV Overhead Line Bypass Elevation Plan	
PN/CSED/8172 (issue G)	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o) Sheet 14 of 14 London Borough of Haringey- Drainage Plan for ODSE Compound 1 Tottenham	2634035/5110	National Grid (North London Reinforcement Project) Order Detail Design Drawings (Regulation 5 (2) (o)) Sheet 14 of 14 – Tottenham Substation 400kV Overhead Line Bypass Elevation Plan	

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4. Summary of Environmental Appraisal

4.1 Introduction

4.1.1 An AoC has been completed to identify whether the Proposed Changes will give rise to any materially new or materially different significant environmental effects compared to those reported in the ES. The AoC is provided within Appendix B to this report and provides a summary of the Environmental Appraisal as set out below in tabular form.

4.1.2 The AoC is also supported by a landscape and visual technical note (see Appendix C) and a noise technical note (see Appendix D). The conclusions of these technical notes are also summarised below. Supporting technical notes for the other environmental topics were not considered necessary as the AoC for those topics did not need to consider new methods of assessment or consider additional and updated photomontages that were prepared to inform the AoC.

4.1.3 Proposed Change 4 is required to accommodate Proposed Change 3 and the proposed OHL oversailing the substation. Therefore, Proposed Change 4 is not considered specifically in the summary of Environmental Appraisal below and the AoC.

4.1.4 In summary the AoC concludes that the Proposed Changes do not give rise to any materially new or materially different significant environmental effects compared to those reported in the ES.

4.1.5 The Proposed Changes are located within the Proposed Non-Material Change Application Order Limits (hereafter referred to as the Site), see Amendment Order Limits Plan (ref: 30302490-ARC-EGN-ZZ-DR-ZZ-00003-S2) in Appendix A.

4.2 Change to Baseline since ES

4.2.1 In undertaking the AoC, consideration was given as to whether there were any new nearby receptors since the ES was produced. This consideration identified potential new receptors from four redevelopment projects and the Meridian Water Development (further information on the Meridian Water Development can be found in the Meridian Water Masterplan and www.meridianwater.co.uk).

4.2.2 The following recently approved planning applications within 1km of the Site have been identified as potential receptors:

- Planning ref. HGY/2022/0664 - 175 Willoughby Lane – A demolition and redevelopment of land in preparation for B2 and B8 uses, which was approved on 03/10/2023, located 0.68km west of the northernmost extent of the Site.
- Planning ref. HGY/2024/1200 – 18 West Road Tottenham London – A demolition of an existing substation and part-demolition of existing warehouse and construction of 2no. substations, approved on 03/10/2024, located 0.65km west of the Order Site.
- Planning ref. HGY/2024/1711 - Petrol Filling Station 1-13 Willoughby Lane– A demolition of existing sales building and MOT centre and re-erection of new sales

building, approved 27/01/2025, located 0.46km west of the southernmost extent of the Site.

- Planning ref. GY/2021/2248 - 27-31 Garman Road – An erection of two replacement B1/B2/B8 units following fire damage and demolition of the original units, approved 14/09/2022, 200m west of the Site.
- Meridian Water Phase 1a: 16/01197/RE3 | Development of Phase 1 of Meridian Water Development; Access for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road.
- Phase 1b: 21/04742/FUL | Development of Phase 1b of Meridian Water Development; Development phase 1 for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road.
- Phase 2: 19/02718/RE3 | Development of Phase 2 of Meridian Water Development. Development phases 2, 3 and 4 for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road.

4.2.3 All the above development applications are located within Tottenham's industrial area, which features several industrial structures including existing OHLs.

4.2.4 The first four applications are redevelopment (demolition and replacement) projects which have already been consented. It has been assumed that construction has commenced on these projects based on the construction periods provided in the planning applications.

4.2.5 Meridian Water Development is a multi-phase, mixed use development on 82 hectares of brownfield, retail and industrial land to the north of Leeside Road. The supporting planning permissions were consented after the 2014 Order was made.

4.2.6 Phase 1 of the Meridian Water Development (Meridian One) has been constructed and is in use. Meridian One is a mixed-use development, comprising homes, leisure, retail, employment and community spaces.

4.2.7 Phase 2 includes Meridian Two, Three and Four. From publicly available information, Meridan Two is currently under construction, and is due to complete in 2026. The later phases of Meridan Water Development (Meridan Three and Four) are proposed on land to the north of Meridan Two and so are the furthest away from the Site. Meridian Two is a residential apartment development on the site of a former gasholder site along Leeside Road to the immediate north of Tottenham substation.

4.3 Landscape and Visual

4.3.1 The ES identified significant landscape effects during construction phase within Tottenham Marshes (TCA 1A), arising from temporary vegetation removal and construction activity. Significant visual effects during construction were also identified for a limited number of close-range viewpoints. During operation, the ES concluded that landscape and visual effects would not be significant following reinstatement and mitigation.

4.3.2 The appraisal of whether the Proposed Changes will give rise to materially new or materially different significant landscape and visual effects compared to those reported in the ES is set out in the Landscape and Visual Appraisal Technical Note in Appendix C. The appraisal considers the same receptors as were assessed in the ES, providing

updated baseline descriptions and effects, and includes consideration of Meridian Water Development, which, since the 2014 Order, has become the closest new residential receptor. The appraisal is supported by updated viewpoint photography and mapping to illustrate Proposed Changes and updated landscape and visual receptors.

4.3.3 The appraisal confirms that while the construction-phase significant effects identified in the ES remain, the Proposed Changes do not increase their extent, duration or severity, and therefore do not alter the significance of effects previously reported.

4.3.4 During operation, the appraisal confirms that landscape and visual effects remain not significant, consistent with the conclusions of the ES. Accordingly, the Proposed Changes do not give rise to any materially new or materially different significant landscape or visual effects.

Landscape effects

4.3.5 Regarding landscape elements, the ES concluded that the removal of 0.1ha of scrubland for the construction of VC1R would result in a medium magnitude of landscape change and moderate adverse landscape effects, which were not significant. During operation, the ES concluded that compensatory planting would make up for this loss, resulting in a slight/moderate adverse long term landscape effects which would also not be significant.

4.3.6 Regarding landscape/townscape character areas, the ES concluded that during construction, TCA1A: Tottenham Marshes would experience a high magnitude of landscape change to accommodate VC1R and associated sealing end compounds and cable corridors, with the level of effect assessed as moderate/ substantial with significant effect due to the open nature of the Tottenham Marshes. During operation these works were considered to not fundamentally modify the key characteristics of the landscape area already heavily influenced by pylons and the magnitude of change was predicted to be low and not significant.

4.3.7 For TCA2B: Industrial/Trading Estates, the ES concluded that given the industrial nature of the site, the magnitude of change during construction and operation was concluded to be low and neither long nor short term direct townscape effects were deemed to be significant.

4.3.8 The appraisal confirms that, in relation to all landscape receptors, no change to the level or significance of effects reported in the ES is likely to arise as a result of the Proposed Changes. For the newly defined Townscape Character Area TCA 3D: Meridian Water Development, no materially new significant landscape effects are considered likely to arise.

Visual effects during construction

4.3.9 The ES identified significant visual effects during construction at a limited number of close-range viewpoints, primarily associated with temporary construction activity and the presence of infrastructure within open views across Tottenham Marshes. The appraisal confirms that the Proposed Changes do not materially increase the extent, duration or severity of these construction-phase visual effects and therefore do not alter the significance of effects previously reported in the ES.

Visual effects during operation

4.3.10 The ES concluded that the magnitude of visual change for receptors at all viewpoints assessed would typically be low to negligible and therefore were concluded to be not significant, following conclusion of construction activities and the reinstatement of grassland.

As noted within the AoC for landscape and visual, the following key characteristics identified in the ES are still relevant for the Proposed Changes:

- the surrounding area has an established urban and industrial character, in which large-scale infrastructure is already a prominent feature; and
- pylons and associated OHL are already present within the study area and form a recognised part of the existing landscape.

4.3.11 Proposed Change 1 will introduce one taller transmission pylon - VC1R - in a slightly different location to that in the 2014 Order and Proposed Change 2 will introduce a new pylon –ZBC44 - not included in the 2014 Order. These pylons will be seen in the context of existing pylons and other infrastructure and will not appear out of place.

4.3.12 Views from new residential development areas (represented by the Meridian Two receptor) already include existing pylons and other infrastructure. Therefore, the introduction of a new pylon (Proposed Change 2) and a consented pylon with an increased height (Proposed Change 1); two additional spans of OHL (Proposed Change 3) will not introduce unfamiliar or incongruous features into the view. Therefore, Proposed Changes 1, 2 and 3 will not give rise to any materially new or materially different significant landscape environmental effects compared to those reported in the ES.

4.3.13 Proposed Change 5 will eliminate the need for scrub removal to the east of Pymmes Brook. The ES considered that the loss of this habitat was not significant and therefore retention of this habitat, although positive, does not change the conclusions reached in the ES. Therefore, Proposed Change 5 will not give rise to any materially new or materially different significant landscape environmental effects compared to those reported in the ES.

4.3.14 The appraisal confirms that in terms of visual receptors, while construction-phase visual effects identified in the ES remain significant in limited close-range views, the increased height of VC1R and the introduction of ZBC44, together with two additional spans of OHL do not increase the extent, duration or severity of those effects. Any additional visibility will occur within context of existing pylons and OHL and will not alter the overall composition or character of any assessed views. Therefore, no materially new or materially different significant visual effects are considered likely to arise.

4.3.15 In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant landscape and visual environmental effects compared to those reported in the ES.

4.4 Lighting

4.4.1 The ES did not propose any lighting for Tottenham substation.

4.4.2 The Proposed Changes do not require any additional lighting. In conclusion, as there is no change in lighting conditions as a result of the Proposed Changes, they do not give

rise to any materially new or materially different significant lighting effects compared to those reported in the ES.

4.5 Historic Environment

4.5.1 The ES reported that the historic environment at Tottenham may be affected through direct disturbance of heritage assets/ archaeological deposits during construction of the underground cable troughs (construction effects) or through changes to the settings of heritage assets that may arise as a result of the presence of new structures or changes in land use (referred to here as operational effects). The ES also reported that the new VC1R pylon would not have an impact on the setting of any designated heritage assets, as there are none present within a 1km radius. The ES concluded that there were no significant effects on the historic environment during construction or operation.

4.5.2 Construction impacts of the Proposed Changes on the historic environment may arise from excavation of the ground and piling depths for pylon VC1R and ZBC44. Proposed Change 1 will potentially cause localised ground impacts within the footprint of its piled foundations. Construction effects may also arise through activities associated with the construction of Proposed Change 2, including: the levelling grading, or reduction of ground; intrusive ground works associated with temporary scaffolding anchors or the diversion of local underground electricity cables; the upgrading of access tracks and resurfacing works. These construction activities associated with Proposed Change 1 will not have a significant effect on ground archaeological remains.

4.5.3 Proposed Change 3 will not require any excavation of the ground or piling therefore no construction impacts associated with the historic environment are anticipated. As a result, there will not be any materially new or materially different significant environmental effects as a result of Proposed Change 3.

4.5.4 Proposed Change 5 eliminates the need for the excavations for the underground cable bypass that were included in the 2014 Order. The ES concludes that “there were no known historic features within the proposed cable route but there is potentially unidentified features to be present”. The ES reported no materially new or materially different significant environmental effects from the underground cable bypass; therefore, no change is anticipated from Proposed Change 5 and the removal of the underground cable bypass excavations.

4.5.5 There will be no construction effects to designated or known non-designated heritage assets as a result of the Proposed Changes as there are none within 500m of the Site. There is a potential for localised construction effects to deposits associated with the Lea Valley Archaeological Priority Area (APA) as a result of the Proposed Changes. The Lea Valley is a Tier 3 APA and is considered to be of medium heritage significance comprised of a high level of archaeological interest relating to the development of the Lea Valley with potential for the presence of deposits associated with use of the area from the prehistoric period onwards. As with the underground cable bypass in the 2014 Order, the Proposed Changes fall within this APA, and the Proposed Changes will be small in scale and nature in comparison to that of the APA as a whole.

4.5.6 The 2014 Order requires archaeological monitoring of works and the recording of any features exposed during construction. A Written Scheme of Investigation, secured by Requirement 14 in Schedule 2 of the 2014 Order will be prepared and agreed with the Greater London Archaeology Advisory Service (GLAAS) and the local authority. This Requirement will also apply to the Proposed Changes and therefore, the Proposed

Changes are assessed to have no materially new or materially different significant environmental effects, the same conclusion as that reported in the ES.

4.5.7 Operational effects to the historic environment could arise from Proposed Changes 1, 2 and 3 due to new pylon locations impacting the setting of heritage assets. However, it is assessed that there will be no materially new or materially significant environmental effects to designated heritage assets, and their setting, compared to those reported in the ES. This is because there are no designated heritage assets within a 1.3km radius of the Site. Consequently, any effect on the setting of such assets as a result of Proposed Changes will be insignificant due to screening provided by the intervening distance, built forms, and mature planting which is the same as that reported in the ES.

4.5.8 In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant environmental effects on the historic environment compared to those reported in the ES.

4.6 Biodiversity

4.6.1 The ES identified that the only potential for a likely significant effect was on the Tottenham Marshes Site of Borough Importance for Nature Conservation (SBINC) related to the permanent and temporary loss of semi-improved grassland and scrub during construction. Temporary losses were associated primarily with installation of the authorised underground cable bypass, with approximately 2ha of semi-improved grassland and 0.2ha of scrub removed temporarily (between March 2014 and January 2016). Permanent losses comprised only 0.2ha of scrub and semi-improved grassland habitats that are widespread within the SBINC and not of intrinsically high ecological value. Consequently, the ES concluded that this loss was significant during construction however with mitigation these losses will not affect the conservation status of the habitats for which the SBINC is designated and were deemed not significant during operation.

4.6.2 For species, the ES reported that:

- Breeding birds may be affected through permanent loss of scrub and woodland, but temporary vegetation removal will not result in detectable changes to local populations;
- Wintering birds, bats, and reptiles will not experience significant effects; and
- Water vole may experience a beneficial effect due to habitat management however it would not have a significant effect on population conservation status.

4.6.3 Whilst no additional habitat loss is required to facilitate Proposed Changes 2 or 3, Proposed Change 1 will require the permanent loss of approximately 0.1ha of semi-improved grassland and 0.1ha of scrub, alongside temporary loss of approximately 0.5ha of semi-improved grassland and ruderal vegetation. These areas fall within habitat types already assessed in the ES and are comparable in scale and ecological value to those previously reported in the ES.

4.6.4 The habitats affected remain of low to moderate ecological value and are not critical to the integrity of designated features. As such, Proposed Changes 1, 2 and 3 do not alter the validity of the ES baseline or its conclusions regarding effects on the SBINC.

4.6.5 Proposed Change 5 will mean there will be no temporary losses associated with the installation of the authorised underground cable bypass and approximately 2ha of semi-improved grassland and 0.2ha of scrub will be retained. With reinstatement of the habitat, the ES considered that the residual effect during operation on this habitat was not significant and therefore is comparable with that reported in the ES. Therefore, Proposed Change 5 is not considered to create any materially new or materially different significant environmental effects.

4.6.6 The ES considered that construction of the underground bypass would be completed during the summer however, the Proposed Changes will be constructed during winter months. Disturbance to wintering birds present at the Lee Valley SPA/Ramsar site from the Proposed Changes is considered to be not significant during construction and operation due to the distance between the Site and Lee Valley SPA/Ramsar site and wintering birds surveys completed in 2024/2025 show that notifiable wintering birds from Lee Valley SPA/Ramsar site do not use the Site. Therefore, operational effects on wintering birds is not significant.

4.6.7 The biodiversity receptors identified in the ES also remain appropriate. The Proposed Changes do not introduce new pathways for impact, such as a change in lighting, new access corridors, or additional noise-generating activities (see Section 4.8 Noise and Vibration which concludes no new or materially different significant environmental effects from noise and vibration compared to those reported in the ES). No new significant effects are anticipated for breeding birds, wintering birds, bats, reptiles, or water vole. All effects remain the same as those reported in the ES and the embedded mitigation measures secured through the 2014 Order continue to be suitable and proportionate for the Proposed Changes.

4.6.8 In conclusion, the Proposed Changes do not give rise to materially new or materially different significant biodiversity effects compared to those reported in the ES.

4.7 Traffic Levels and Transport

4.7.1 The ES assessed the potential effects on traffic levels and transport in the surrounding area, including during the construction and operational stages and in combination with nearby developments.

4.7.2 The ES predicted that during peak construction months, approximately 50 construction vehicle movements per day (e.g. 25 arrivals and 25 departures) will be generated.

4.7.3 The ES identified a site-specific control measure at A1055 Watermead Way/Marigold Road, including redesigning the signalised junction to include a dedicated cyclists/pedestrian crossing to minimise conflict between site traffic and vulnerable road users. Based on the identified controls, effects on local road users, and owners/ users of adjacent land, were deemed not likely to be significant.

4.7.4 The Proposed Changes will not result in a change to the traffic or transport movements utilising the existing access track through Tottenham Marshes off the A1055 Watermead Way, as reported in the ES.

4.7.5 Traffic and transport volumes will be reduced (from those considered in the ES) by the removal of authorised development associated with Proposed Change 5. Based on the distances to the nearest receptors (including Meridian Water Development), the short duration of the construction works and implementation of the recommended best practice measures (as set out in the CTMP, secured by Requirement 9 in Schedule 2 of

the 2014 Order), the Proposed Change would not give rise to any significant effects. As a result, the Proposed Changes do not give rise to any materially new or materially different significant traffic and transport effects compared to those reported in the ES.

4.8 Noise and Vibration

Noise

4.8.1 The ES identified that the nearest noise sensitive receptors (NSRs) to Tottenham Substation and the underground cable bypass were at Heybourne Road, Tottenham.

4.8.2 The ES considered that significant effects due to construction works were unlikely, and as such an assessment of construction noise and vibration was scoped out of the ES. Notwithstanding this, best practice measures were recommended. The ES concluded that there would be no significant environmental effects resulting from either operational wet or dry noise, or traffic noise.

4.8.3 Since the 2014 Order, Meridian Two has become the closest new NSR. As set out in section 4.2 of this Supporting Statement, Meridian Water Development is delivering in a phased approach. Meridian One has been completed and is occupied by residents. Meridian Two is under construction and the location of this is shown on Figure 6.1 in the Noise Technical Note in Appendix D. An assessment of Meridian Two as the nearest NSR within Meridian Water Development to the Site has been undertaken, as detailed below.

4.8.4 The Proposed Changes have the potential to impact on nearby NSRs due to construction and operational noise, including plant and machinery, construction activities and traffic movements. A noise assessment of the Proposed Changes has been undertaken and is detailed in Appendix D.

4.8.5 Construction noise was scoped out of the ES as no significant impact from construction noise was anticipated. Based on the distances to the nearest NSR, the short duration of the construction works and implementation of the recommended best practice measures set out in the ES (as set out in the CEMP, secured by Requirement 13 in Schedule 2 of the 2014 Order), the Proposed Changes would also not give rise to any significant effects on NSRs. As a result, the Proposed Changes do not give rise to materially new or materially different significant construction noise effects on NSRs (ie none were reported in the ES and no such effects arise from the Proposed Changes.

4.8.6 In terms of operational noise, OHLs can produce audible noise in operation, which can include both wet and dry noise from conductors. The wet and dry noise from the conductors forming part of the development authorised by the 2014 Order at Tottenham was concluded to be not significant in the ES. Since the 2014 Order was made, NGET has developed a new methodology for assessing operational noise from OHLs (as detailed in the Noise Technical Note in Appendix D) which uses a three-tier approach to screen receptors out of further assessment where there will be no adverse impact. This new methodology supersedes the methodology for noise that informed the ES but for the purposes of the AoC is comparable when considering significance of effect. Tier 1 (screening) assessment has been undertaken, assuming wet noise occurs 100% of the time. The results show that the adopted criterion is exceeded, and therefore a Tier 2 (further screening) assessment was undertaken.

4.8.7 The Tier 2 assessment results show that no adverse impact is predicted. Under the requirements of National Grid Technical Guidance Note TGN(E)322, where the

combined wet/dry noise level falls in the 'No Adverse Impact' category, the noise from the OHL (including the introduction of two new spans of OHL as part of Proposed Change 3) is acceptable and no further action or assessment is necessary. This is the same conclusion as was reached in the ES; that there would be no significant impact from the Proposed Changes.

4.8.8 No additional traffic movements are considered as a result of the Proposed Changes. Therefore, construction/ operational traffic movements do not give rise to materially new or materially different significant noise effects on NSRs compared to those reported in the ES.

4.8.9 In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant noise effects compared to those reported in the ES.

Vibration

4.8.10 Construction vibration may have the potential to impact on nearby NSRs. As noted above for noise, the ES identified the nearest receptors for vibration to be at Heybourne Road, Tottenham. Since the 2014 Order, Meridian Two has become the closest new NSR.

4.8.11 The ES considered the risk of perceptible vibration from construction works affecting existing residents to be insignificant. The ES also considered that construction traffic was highly unlikely to cause any significant vibration effects resulting in disturbance or damage to occupants or buildings. The ES concluded there to be no significant environmental effects resulting from vibration.

4.8.12 In considering the Proposed Changes, construction vibration may be created from piling additional foundations associated with Proposed Change 2 and piling to a greater depth to create deeper foundations for Proposed Change 1. However, the Proposed Changes are located at a reasonable distance away from the NSRs and will generate similar vibration levels to that considered in the ES.

4.8.13 No construction vibration will be generated from Proposed Changes 3, 4 and 5.

4.8.14 Proposed Change 5 will eliminate the need for excavations to the east of Pymmes Brook and remove the source of construction vibration in that area. Although Proposed Change 5 will remove a source of construction vibration it is considered that it will not change in significance of effect on the NSRs compared to those reported in the ES. Therefore, the Proposed Changes are considered to not give rise to any materially new or materially different significant vibration effects during construction compared to those reported in the ES.

4.8.15 Operational vibration can occur as a direct result of wind-induced vibration, wake conduction (multiple conductors within close proximity affecting each other's wake), mechanical factors (such as conductor tension and design), and may also occur as a result of other weather conditions such as humidity and precipitation. Proposed Change 3 will introduce a new OHL and therefore a potential new source of operational vibration, however, no significant change in operational vibration is anticipated and mitigation to reduce operational vibration is embedded within the OHL design. The conclusion remains the same as that considered in the ES, which is that there would be no significant environmental effects resulting from vibration.

4.8.16 In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant vibration effects during operation compared to those reported in the ES.

4.9 Air quality

4.9.1 The ES assessed the potential effects on air quality in the area surrounding Tottenham substation, including during the construction and operational stages and in combination with nearby developments.

4.9.2 As stated within the ES, the Site is located within the London Borough of Haringey, which is an Air Quality Management Area (AQMA) for NO_2 and 24 hour mean PM_{10}, with the primary emission source originating from road traffic emissions. The borough is still classified as an AQMA in 2026.

4.9.3 Site-specific control measures are included in the CEMP secured by Requirement 13 in Schedule 2 of the 2014 Order. The CEMP identifies the need for contractor membership of the Considerate Contractors Scheme and includes best practice, such as:

4.9.4 Covering skips to control odour;

- No burning of any waste/ material;
- Dampening of roadways to control dust;
- Regular road sweeping/ washing;
- Screening/ enclosure of stockpiles, generators, materials, and lorries;
- Speed limit enforcement on highways;
- Regularly maintaining construction vehicles, and ensuring they are mindfully located away from the nearest receptors; and
- HGV transportation movements will be in accordance with the HGV construction traffic movements plan which will be prepared prior to commencement of the works.

4.9.5 The ES stated “the Tottenham Marshes site is located close to an existing industrial area. The closest residential receptors are more than 300m to the west of the closest works around pylon VC1 and over 400m to the east of the cable works”. The ES concluded that any air quality issues arising from dust or traffic emissions during construction could be suitably managed with the above control measures and best practice.

4.9.6 Additionally, the ES concluded that any emissions arising from operational traffic were deemed not to have a significant impact on air quality.

4.9.7 The ES concluded that the proposals were unlikely to produce any significant increase in CO_2 emissions and were therefore deemed insignificant in terms of contributions to climate change.

4.9.8 Proposed Changes 1 to 5 will not result in a significant change to the traffic movements utilising the highway through and off the A1055 Watermead Way during construction. No additional operational traffic movements are anticipated (and therefore no subsequent emissions) as a result of the Proposed Changes.

4.9.9 Based on the distances to the nearest receptors (residential and ecological receptors >300m away) as considered in the ES, the short duration of the works, recommended best practice measures consented as part of the 2014 Order, (and the implementation of a CEMP and CTMP, secured by Requirement 9 and 13 in Schedule 2 of the 2014 Order) it is considered that the conclusions of the ES remain valid for Air Quality.

4.9.10 Meridian Water Development is located to the north west of the Site and Meridian Two is a new air quality receptor. It is considered that the air quality mitigation included in the ES will suitably manage any air quality impacts on Meridian Two and only negligible air quality impacts on Merdian Two are anticipated.

4.9.11 In conclusion, the Proposed Changes do not give rise to materially new or materially different significant air quality effects compared to those reported in the ES.

4.10 Hydrology/Water Environment

4.10.1 The ES identified the below potential water environment receptors in the area surrounding Tottenham substation.

4.10.2 Tottenham substation and the Proposed Changes are located to the west of Banbury Reservoir and north of Lockwood Reservoir. There is a potential source of contamination within the Made Ground around Tottenham, due to the industrial nature of the site. Pymmes Brook flows broadly southwards parallel to the full length of the site. Through the site, Pymmes Brook is channelised: its banks are formed of sheet piles with concrete capping (typically 3.7 m high) and a concrete base (typically 9 m wide). These act as flood defences, preventing flooding from the brook and offer protection from any overland flooding from either the site or the River Lee Navigation Canal that lies to the east of the site. The River Lee and other watercourses located further to the east of the site flow southward.

4.10.3 The ES concluded that following application of a Foundation Works Risk Assessment (FWRA) as approved with the EA, secured by Requirement 13 in Schedule 2 of the 2014 Order there would be no environmentally significant effects on water resources.

4.10.4 Groundwater Vulnerability Mapping (2017) indicates superficial deposits, comprising Alluvium underlain by Kempton Park Gravels underlie the Tottenham area. These are classified as a secondary undifferentiated aquifer and a secondary aquifer, respectively. The bedrock deposits comprise London Clay, an unproductive strata, and beneath the deeper bedrock strata of the Lambeth Group and Thanet Formation, comprising Secondary A aquifers, underlain by Chalk, the latter designated as a Principal aquifer. The deeper aquifers are considered to be in hydraulic continuity.

4.10.5 Proposed Changes 1 and 2 will require additional piling from those considered in the ES as a result of the increase in height of pylons VC1R and new pylon ZBC44. The potential for pathway creation from contaminated Made Ground and/or Kempton Park Gravels to underlying aquifers (Lambeth Group and Thanet Formation and Chalk) has the potential to impact groundwater quality. Section 13.5 of the ES and Appendix A3 of the Outline CEMP in the ES of the 2014 Order make a commitment that FWRAs will be prepared where piling is being undertaken for approval by the Environment Agency (EA). While Proposed Changes 1 and 2 will introduce additional piling, the descoping of the authorised development of two cable sealing ends and cable bridges associated with Proposed Change 5 will reduce overall piling requirements and excavation around Pymmes Brook, reducing the potential pathway creation for contamination to enter

groundwater and surface water. Therefore, on balance no change in environmental effects is anticipated from the Proposed Changes compared to those reported in the ES.

4.10.6 The mitigation secured by Requirements 11 and 13 in Schedule 2 of the 2014 Order will apply equally to the Proposed Changes. Requirement 11 requires a written scheme to deal with the contamination of any land, including groundwater; and Requirement 13 requires a CEMP to be submitted to and approved in writing by the relevant planning authority. The CEMP requires implementation of advice in Defra's Guidance for Pollution Prevention (GPP's) (DEFRA Guidance), which replaced the EA's Pollution Prevention Guidelines (PPGs) in 2015, and an emergency response protocol to be set. The protections in the CEMP will protect surface water quality and will also protect the groundwater environment.

4.10.7 With the adoption of site drainage techniques to minimise run-off, the appropriate disposal of surface and foul water and standard industry best practice measures in place for the operational phase, including routine maintenance for accidental pollution control in line with Defra's GPP's and best practice, it is likely that residual effects on surface or groundwater quality during construction and operation of Proposed Changes 1 and 2 will not be significant.

4.10.8 Proposed Change 3 will not require excavation of land and no change in environmental effects is anticipated from this Proposed Change.

4.10.9 In conclusion, although the risk of contamination entering groundwater and surface water is reduced as a result of the Proposed Changes, it is not significantly different from that reported in the ES and therefore, the Proposed Changes do not give rise to materially new or materially different significant hydrology/water environment effects compared to those reported in the ES.

4.11 Geology, Soils and Agriculture

4.11.1 The ES reported that topsoil and/or subsoil may be removed from beneath proposed permanent pylons. Further that temporary removal of soil resources may occur at construction laydown areas (related to Proposed Changes 1 and 2) which will be reinstated after completion of the works.

4.11.2 The ES concluded that the soils in and around the Tottenham area are not considered to be particularly sensitive or of good quality and are classified as urban or non-agricultural. There are no agricultural features within this region. The area is also underlain with London Clay, which is permeable and is associated with being a source of foundation instability. Based on this and the relatively small area of disturbance from the 2014 Order no significant effect on geology and soils was concluded. Agricultural land was screened out as not present.

4.11.3 Proposed Change 1 will require increased depth foundations to facilitate the increase in the transmission pylon height. The deepened piles will remain within the London Clay layer which will prevent potential pathway creation despite the height increase of the pylons. Similarly, Proposed Change 2 will also remain within the London Clay layer. Therefore, Proposed Change 1 and 2 will not change the significance of effect as reported in the ES.

4.11.4 Proposed Changes 3 and 4 will not require excavation of soil and therefore no change in environmental effects is anticipated from these Proposed Changes.

4.11.5 Proposed Change 5 eliminates the need to excavate soil and disturb geology to the east of Pymmes Brook. The soils present are not particularly sensitive or of good quality and are classified as urban or non-agricultural in the ES and there will be no change in the significance of effect as reported in the ES from Proposed Change 5.

4.11.6 In conclusion, the Proposed Changes do not give rise to materially new or materially different significant geology, soils and agriculture effects compared to those reported in the ES.

4.12 Contaminated Land

4.12.1 The ES identifies that there is a potential source of contamination at the Tottenham substation site due to the presence of the substation and industrial areas surrounding the site. The ES concluded that with the embedded environmental mitigation in the design, the effects on land quality were not significant.

4.12.2 The ES concluded that although there was historical contamination present, the potential effects were not significant apart from those effects on groundwater which were considered to be significant. Necessary mitigation is secured by Requirements 11 and 13 in Schedule 2 of the 2014 Order which respectively requires a written scheme to deal with the contamination of groundwater; and a CEMP to be submitted to and approved in writing by the relevant planning authority. The ES confirmed that the environmental measures incorporated into the project will result in all of the effects identified in relation to land quality being reduced to not significant.

4.12.3 The CEMP requires the completion of a FWRA for all piling activities to be agreed in advance with the EA, also for the use of appropriate Personal Protective Equipment (PPE) during construction, and incorporation into construction method statements of standard industry best practice measures for the protection of the water environment.

4.12.4 The mitigation measure set out in Requirements 11 and 13 will apply to the Proposed Changes as well. The environmental effects from the installation of deeper piles required for Proposed Change 1 and Proposed Change 2 will therefore be assessed in the FWRA required by the CEMP. The FWRA will identify appropriate measures to ensure any effect is not significant.

4.12.5 Proposed Changes 3 and 4 involve above-ground works and will have no impact on the findings and environmental measures stated in the ES relating to contaminated land.

4.12.6 The ES only considered contamination at Tottenham substation and did not consider contamination at the location of the underground cable bypass which will be removed through the implementation of Proposed Change 5. Retention of the existing land in this area of the Site will not result in a significant environmental effect. Therefore, Proposed Change 5 will not give rise to materially new or materially different significant environmental effects for land quality compared to those reported in the ES.

4.12.7 In conclusion, the Proposed Changes do not give rise to materially new or materially different significant contaminated land effects compared to those reported in the ES.

4.13 Recreation

4.13.1 The ES assessed the potential effects on recreation uses in the area surrounding Tottenham, including during the construction and operational stages and in combination with nearby developments.

4.13.2 As stated within the ES, this section of the overhead alignment passes through the Tottenham region which features two public rights of way (PRoW), namely Lee Valley Walk and Lee Valley Path. Additionally, the ES identified works in Tottenham Marshes lying outside the existing substation boundary, i.e. areas to the east and to the south of the existing substation lie within land which is designated as both a Local Wildlife Site and as an open space. In the vicinity, there is also Lee Valley Park (designated as a regional park by Haringey Council), and Tottenham Park (designated as a district park by the council).

4.13.3 The ES concluded the following for each of these receptors:

- Recreational PRoW users: Due to the short length of time for temporary footpaths, and the availability of alternative routes in the nearby area, there were no likely significant effects directly on users of recreational PRoWs. It was also deemed unlikely that the users of the PRoWs will be significantly affected by the temporary increase in construction traffic.
- Effects on recreational users using the Lee Valley Park: Despite an approximate temporary reduction of 2.8ha of open space, the ES concluded that works will not cause any break in continuity of open space along the Lee Valley and will provide a similar visitor experience and therefore concluded there were no likely significant effects on users of recreational PRoW;
- Effects on recreational users using the Tottenham Marshes: Tottenham Marshes was predicted to lose approximately 0.2ha of open space due to the construction of the VC1R compound. The area to be lost was deemed comparatively small in the context of the large amount of remaining open space available to the public east of Pymmes Brook and was deemed to be insignificant; and
- Effects on birdwatchers and other naturalists at Lee Valley SMINC/ LWS and Tottenham Marshes SBINC: For both sites the permanent reduction in size is relatively small, in the context of the wider site, and a large area will remain available for birdwatchers/ naturalists. The effects were deemed to be insignificant.

4.13.4 Proposed Changes 1 to 5 will not require a change to construction impacts on the two PRoW identified in the ES or public access to the Lee Valley. Footpath Z will remain closed as considered in the ES to allow access for the OHL works between pylon VC1R and VC2. Therefore the impacts on the PRoW or public access are the same as those considered in the ES as set out above. Therefore, the Proposed Changes do not give rise to any materially new or materially different significant recreation effects compared to those reported in the ES.

4.14 Cumulative

4.14.1 A search of Haringey and Enfield Councils' Planning Portals has identified the following relevant planning applications within 1km of the Site:

- Planning ref. HGY/2022/0664 - 175 Willoughby Lane – The demolition and redevelopment of land in preparation for B2 and B8 uses, which was approved on 3 October 2023, located 0.68km west of the northernmost extent of the Site.

- Planning ref. HGY/2024/1200 – 18 West Road Tottenham London - The demolition of an existing substation and part-demolition of existing warehouse and construction of 2no. substations, approved on 3 October 2024, located 0.65km west of the Site.
- Planning ref. HGY/2024/1711 - Petrol Filling Station 1-13 Willoughby Lane– Demolition of existing sales building and MOT centre and re-erection of new sales building, approved 27 January 2025, located 0.46km west of the southernmost extent of the Site.
- Planning ref. GY/2021/2248 - 27-31 Garman Road - Erection of two replacement B1/B2/B8 units following fire damage and demolition of the original units, approved 14 September 2022, 200m west of the Site.
- Meridian Water Phase 1a: 16/01197/RE3 | Development of Phase 1 of Meridian Water Development (known as Meridian One). Access for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road.
- Meridian Water Phase 1b: 21/04742/FUL | Development of Phase 1b of Meridian Water Development (known as Meridian One). Development phase 1 for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road.
- Meridian Water Phase 2: 19/02718/RE3 | Development of Phase 2 of Meridian Water Development. Development of Phase 2 of a multi-phase (three subphases (also known as Meridian Two, Meridian Three and Meridian Four)), mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road.

4.14.2 All the above planning applications are located within Tottenham's industrial area, which features several industrial structures including existing OHLs.

4.14.3 The first four applications are redevelopment (demolition and replacement) projects which have already been consented. It is assumed that construction has commenced based on the construction periods provided in the planning applications.

4.14.4 The supporting environmental documentation for the first four redevelopment applications identified no significant residual environmental effects. The first four applications are located within Tottenham's industrial area, which feature several industrial structures including existing OHLs. The introduction of the Proposed Changes would result in environmental conditions considered akin to the existing environment surrounding the above four planning applications. Additionally, the four planning applications are located to the west of Mowlem Trading Estate, used for commercial and light industrial purposes. This trading estate acts as screening for nearby residential receptors for any potential visual, noise and air quality impacts that may arise as a result of the Proposed Changed.

4.14.5 It has been assumed the redevelopment applications are now constructed. Should it be the case that construction has been delayed, then it is considered unlikely that the construction of the planning applications would present cumulative impacts during construction or operation of the Proposed Changes, due to:

- The distant proximity of the four planning applications to the location of the Site, and

4.14.6 The implementation of appropriate transport management plans, air quality and noise management.

4.14.7 The Meridian Water Development (planning applications 5 to 7 above) has been considered further in regard to its potential to have in-combination cumulative effects with the Proposed Changes during construction/ operation due to the following reasons:

- Meridian Two has now been identified as the nearest receptor to the Proposed Changes.

4.14.8 At the time of its application, Meridian Water Development was deemed EIA development.

4.14.9 An assessment of these potential cumulative effects are set out below:

Meridian Water Development

4.14.10 Meridian One has been constructed and is in use, therefore it has been scoped out of this cumulative section. Meridian One has been considered as a receptor in the environmental topics of the AoC as set out above.

4.14.11 Meridan Two is currently under construction with completion due in 2026.If the NMC-1 application is successful, construction of the OHL bypass works at Tottenham is anticipated to start in 2026, with completion in 2027. Therefore, there is potential for some construction of Meridian Two and the construction associated with the OHL bypass to overlap. Merdian Two has been considered as a receptor in these cumulative effects section, as well as Meridian Three and Meridian Four.

4.14.12 Commercial units are proposed on the ground and first floor of Meridian Two. The proximity of the 2014 Order and its compatibility with commercial and residential units will have been considered by the local planning authority when the application for Meridian Two was consented in 2019. Therefore, the level of commercial noise has already been considered acceptable with consideration to the works authorised by the 2014 Order, and any future commercial use is not likely to generate noise levels which will give rise to adverse effects to nearby receptors. Therefore, cumulative noise is not likely to be significant in conjunction with the Proposed Changes.

4.14.13 The construction of the later phases of the Meridian Water Development (Meridian Three and Four) will dominate the noise levels at the receptors constructed in Meridian Two due to their close proximity. Notwithstanding this, it is anticipated that the construction of the Meridian Water Development will be subject to the same best practice measures as those put forward for the Proposed Changes (such as the Code of Construction Practice as secured by Requirement 13 in Schedule 2 of the 2014 Order), and will include enhanced physical mitigation (higher noise barriers/hoardings) in combination with real time noise monitoring and reporting. Therefore, any noise effects in conjunction with the Proposed Changes will not be significant.

4.14.14 Given the low noise levels predicted from the Proposed Changes at the Meridian Water Development, it is considered unlikely that noise from the Proposed Changes will contribute to the overall noise level at receptors. Therefore, the cumulative effect is also considered to be not significant.

4.14.15 The ES prepared for Meridian Two (M2ES) identified no cumulative traffic or transport effects for NLRP and considered the works authorised by the 2014 Order to be outside of the appropriate study area.

4.14.16 It is considered that the Proposed Changes do not introduce any materially new or materially different significant cumulative effects for traffic and transport, based on the following factors:

- The distances between Meridian Water Two, Three, Four and the Site;
- the short duration of construction works associated with the Proposed Changes;
- the use of recommended best practice measures; and
- the implementation of a CTMP as secured by Requirement 13 in Schedule 2 of the 2014 Order.

4.14.17 Construction dust related air quality impacts were scoped out of assessment for Meridian Two. Following redistribution of HGV movements away from Conduit Lane/ Montagu Road it was deemed that construction traffic related air quality impacts from Meridian Two were insignificant. No cumulative air quality impacts were identified in the M2ES.

4.14.18 Construction of Meridian Two, Three and Four is, and will be subject to, similar best practice measures as those included in the CEMP, secured by Requirements 9 and 13 in Schedule 2 of the 2014 Order. Construction of Meridian Two will likely occur simultaneously to the Proposed Changes. It is considered that the air quality mitigation included in the M2ES and the 2014 Order ES will continue to suitably manage any air quality impacts. It is therefore considered that the Proposed Changes do not introduce any materially new or materially different significant cumulative effects for air quality.

4.14.19 Given the short-term nature of the temporary closures of PRoW routes and the availability of alternative routes in the area surrounding the Proposed Changes and Meridian Two, Three and Four, which will provide a similar user experience, it is concluded that the Proposed Changes do not introduce any materially new or materially different significant cumulative effects for recreation.

4.14.20 In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant cumulative effects compared to those reported in the ES.

5. Conclusion

5.1.1 As the UK moves away from fossil fuels and increases clean energy generation, the UK will be using more electricity than ever before. Demand for electricity is expected to increase by 50% by 2035 and double by 2050. Significant new infrastructure is therefore needed to connect this clean energy from where it's generated to where it's needed.

5.1.2 The Great Grid Upgrade is NGET's programme to modernise and expand Britain's high-voltage electricity network. It comprises 17 major infrastructure projects that play a vital part in achieving the UK Government's ambition of connecting 50GW of offshore wind by 2030 and will be delivered under Ofgem's Accelerated Strategic Transmission Investment (ASTI) framework.

5.1.3 NLRP is one of these 17 ASTI projects and a crucial component of the Great Grid Upgrade, aimed at enhancing the electricity transmission network in London and the surrounding areas. It will help increase transmission capacity to meet growing demand; support energy security; and ensure that London and the surrounding areas can connect to the renewable energy generated by offshore wind, solar, and other sources.

5.1.4 The need for NLRP (and as explained below, the non-material change application) is supported by Government policy. NPS EN-1 establishes that there is a significant and urgent need to deliver new energy infrastructure to provide a secure, reliable and affordable supply of energy; meet the Government's decarbonisation targets; support economic growth; boost productivity and competitiveness and support economic prosperity and social well-being. Specifically, paragraphs 3.3.65 - 3.366 state:

"There is an urgent need for new electricity network infrastructure to be brought forward at pace to meet our energy objectives. The security and reliability of the UK's current and future energy supply is highly dependent on having an electricity network which will enable new renewable electricity generation, storage, and interconnection infrastructure that our country needs to meet the rapid increase in electricity demand required to transition to net zero while maintaining energy security. The delivery of this important infrastructure also needs to balance cost to consumers, accelerated timelines for delivery and the minimisation of community and environmental impacts."

5.1.5 NPS EN-5 applies to infrastructure for electricity networks, and highlights the importance of these networks in supporting the new low carbon electricity generation infrastructure the UK needs to transition to net zero. At 2.1.5 NPS EN-5 states:

".. to support the urgent need for new low carbon infrastructure, all power lines in scope of EN-5 including electricity network reinforcement and upgrade works, and associated infrastructure such as substations, are considered to be CNP infrastructure. This is not limited to those associated specifically with a particular generation technology, as all new grid projects will contribute towards greater efficiency in constructing, operating and connecting low carbon infrastructure to the National Electricity Transmission System".

5.1.6 The NLRP will deliver important upgrades to CNP infrastructure. This includes uprating the ZBC OHL running from Waltham Cross substation to Tottenham substation from 275 kilovolts to 400 kilovolts. The 2014 Order authorised NGET to uprate the ZBC OHL, undertake works to Waltham Cross substation, Brimsdown substation and Tottenham

substation, and to carry out all associated works. The authorised works at Tottenham included a bypass of Tottenham Substation via the installation of a new section of underground cable.

5.1.7 It is necessary for NGET to make a non-material change application as the detailed design for the underground cable bypass, originally proposed and authorised by the 2014 Order, has shown that it cannot be constructed as originally planned. Following consideration of design alternatives, NGET has concluded that the best way to deliver the proposed bypass at Tottenham is by means of an overhead line bypass. This solution can be delivered without requiring the compulsory acquisition of additional land interests. It also minimises impacts on third party assets within the vicinity of the substation and reduces land take within Lee Valley Regional Park.

5.1.8 As demonstrated in the AoC and this Supporting Statement, in all cases, the effects of the Proposed Changes (that form the non-material change application) for the environmental topics considered in the ES either remain unchanged or result in effects that are similar to those previously assessed in the ES. The Proposed Changes therefore do not give rise to any materially new or materially different significant environmental effects compared to those reported within the ES. Further, the Proposed Changes also do not require additional compulsory acquisition of land or create any additional implications in respect of habitats regulation assessment; therefore, NGET considers that the application is non-material in nature.

5.1.9 The changes sought to the 2014 Order through this application are required to enable NGET to progress the uprating of the ZBC OHL to 400kV, a critical component of the NLRP. The application will help increase transmission into Greater London as demand increases, and is fully supported by Government policy given its purpose is to facilitate the urgent delivery of new electricity network infrastructure.

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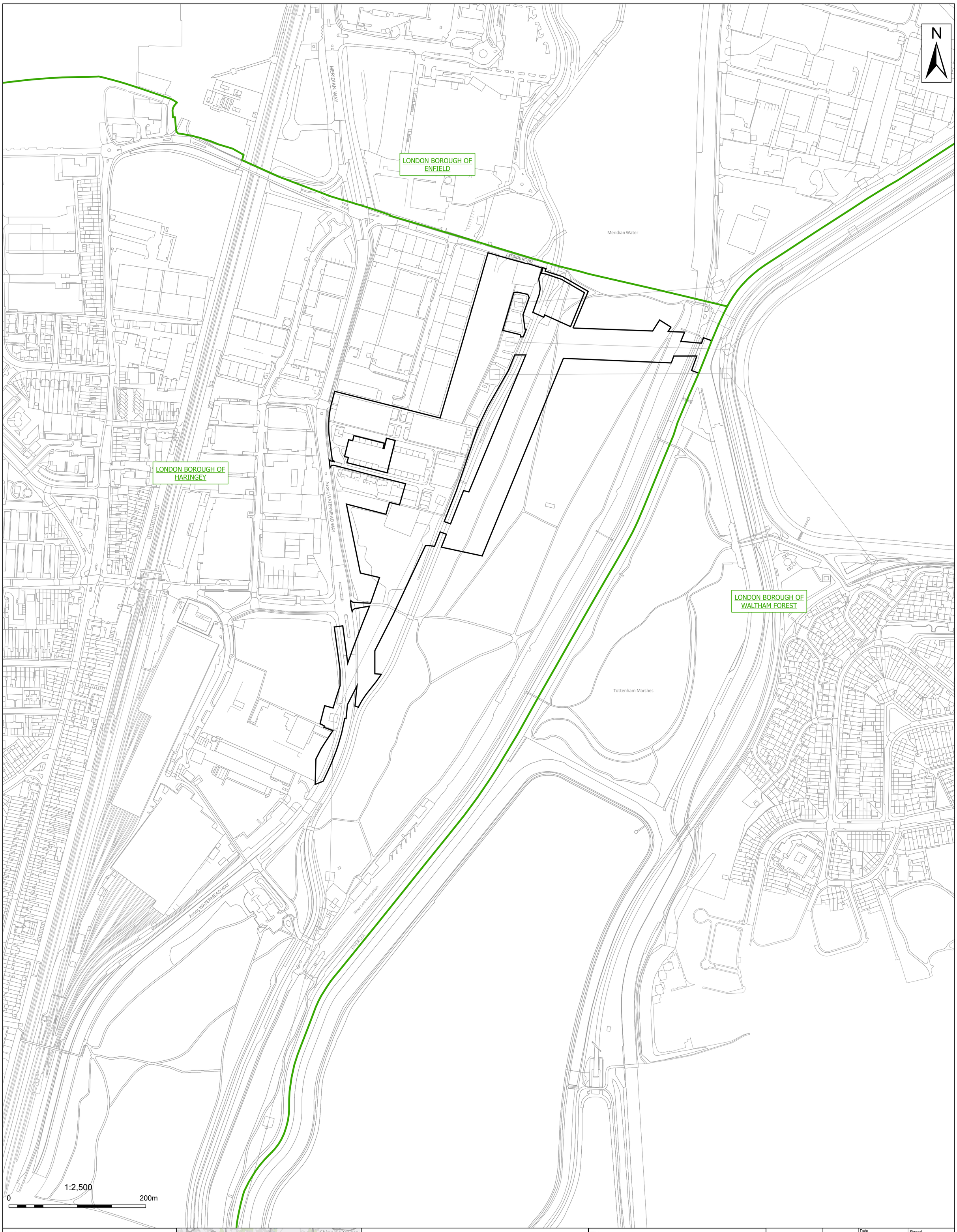
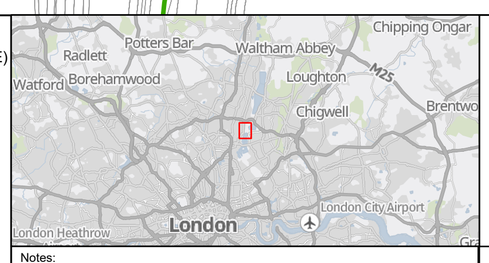
Appendix A

Plans



LEGEND

- PROPOSED AMENDMENT ORDER LIMITS (THE SITE)
- BOROUGH BOUNDARY



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Client: nationalgrid

Project: NORTH LONDON REINFORCEMENT PROJECT

Site: Tottenham Substation

Client: National Grid Electricity Transmission

Rev	Date	Description	Drawn	Check	Approv
03	10/04/26	Amendment to legend	RE	HJ	SD
02	09/02/26	Amendment to template	RE	HJ	SD
01	22/01/26	INITIAL ISSUE	RE	HJ	SD

Title: North London Reinforcement Project - Proposed Non-Material Amendment - Proposed Amendment Order Limits

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Designed	H.J	Date 10 APR 26	Signed
Drawn	R.E	Date 10 APR 26	Signed
Checked	H.J	Date 10 APR 26	Signed
Approved	S.D	Date 10 APR 26	Signed
Scale:	1:2,500	Datum:	AOD
Original Size:	A1	Grid:	OS
Suitability Code:	S2	Project Number:	30302490

Suitability Description: For Information

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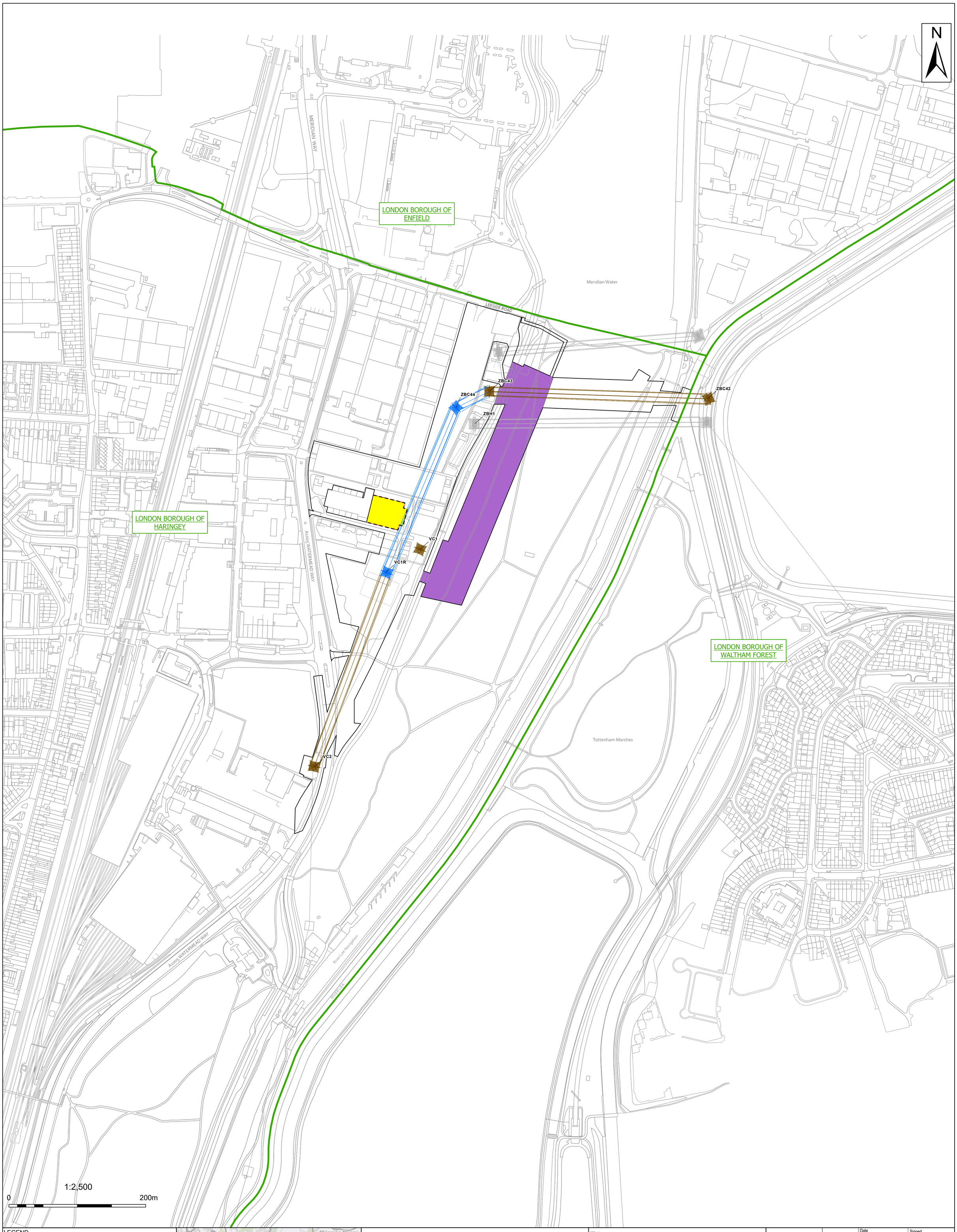
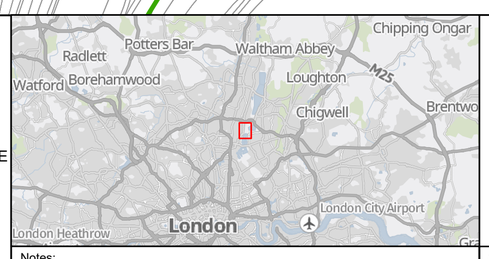


LEGEND

- ORDER LIMITS (THE SITE)
- BOROUGH BOUNDARY
- EXISTING ORDER LIMITS IN 2014 ORDER
- WORKS CONSENTED IN 2014 ORDER
- PROPOSED WORKS TO FACILITATE OVERHEAD LINE BYPASS OVER TOTTENHAM SUBSTATION (PROPOSED CHANGES 1, 2, AND 3)
- PROPOSED EXTENSION TO ORDER LIMITS (PROPOSED CHANGE 4)
- REMOVAL OF WORKS IN 2014 ORDER TO FACILITATE A CABLE BYPASS OF TOTTENHAM SUBSTATION (PROPOSED CHANGE 5)



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Client: nationalgrid

Project: NORTH LONDON REINFORCEMENT PROJECT

Site: Tottenham Substation

Client: National Grid Electricity Transmission

Rev	Date	Description	Drawn	Check	Approv
05	21/04/26	Update to data	RE	HJ	SD
04	10/04/26	Update to legend	RE	HJ	SD
03	16/03/26	Update to title	RE	HJ	SD
02	09/02/26	Amendment to template	RE	HJ	SD
01	22/01/26	INITIAL ISSUE	RE	HJ	SD

Title: North London Reinforcement Project – Proposed Non-Material Change Application – Concept Plan

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Approved	S.D	Date 10 APR 26	Signed
Scale:	1:2,500	Datum:	AOD
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Revision: P04

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Appendix B

Assessment of Change

Assessment of Change

This Assessment of Change (AoC) has been undertaken to support a Non-Material Change (NMC-1) application to the National Grid (North London Reinforcement Project) Order 2014 (reference SI 2014/1052) (the 2014 Order) for changes to the design of certain works at Tottenham substation. This AoC seeks to identify whether the Proposed Changes to the design would present any materially new or materially different likely significant effects on the environment which would require an update to the Environmental Statement (ES) submitted in support of the 2014 Order application. This AoC also includes consideration of any changes to the baseline environment and identifies any new receptors since the ES was produced.

The AoC is accompanied by a Supporting Statement, as well as a landscape and visual technical note, and a noise technical note. Supporting technical notes for the other environmental topics were not considered necessary as the AoC for those topics did not need to consider new methods of assessment or consideration of additional and updated photomontages.

Proposed Changes are located within the Proposed NMC-1 application Order Limits (hereafter referred to as the Site), see Proposed Amendment Order Limits Plan (ref: 30302490-ARC-EGN-ZZ-DR-ZZ-00003-S2) in Appendix A of the Supporting Statement.

Document Control	
Change Request No. and Name/Title	North London Reinforcement Project Non-Material Change Application – NMC-1
Prepared by:	Arcadis with specialist input from WSP, Arup and National Grid Electricity Transmissions (NGET).
Date Raised:	3 February 2026
Assessment of Change Summary	
Proposed Project Change Description and Drawings	NGET is making a NMC-1 application to the National Grid (North London Reinforcement Project) Order 2014 (the 2014 Order) to make the following five changes (the Proposed Changes): • Proposed Change 1: Amendment of design of transmission pylon VC1R • Proposed Change 2: Installation of a new transmission pylon ZBC44 • Proposed Change 3: Installation of two spans of new 400kV overhead line (OHL) • Proposed Change 4: Minor extension to the Order Limits • Proposed Change 5: Removal of authorised development relating to underground cable bypass of Tottenham substation A detailed explanation of the Proposed Changes is included within Section 3 of the Supporting Statement. The drawings certified under Article 43 of the made DCO 2014 Order to be amended as part of the NMC-1 application are listed in Table 1 of the Supporting Statement. The drawings certified under Article 43 of the 2014 Order to be replaced as part of the NMC-1 application and the drawings that will replace these drawings are listed in Table 2 of the Supporting Statement.

Assessment of Change

Criteria	Change	DCO/ES Document Reference	ES Assessment Criteria and Conclusions	Detail difference to DCO Baseline as a result of Proposed Change (e.g. Impact of Change)	Propose Mitigation and detail effect on Impact of Change	Cumulative Comment	Does the change result in materially new or different environmental effects?
	Y/N – if No move to next criteria	***Provide reference for the baseline conditions***	Summarise the impacts as they have been assessed within DCO/ES.	Detail the impact of the Proposed Change to criteria in the same terms as those in the DCO baseline.	***Detail mitigation actions that can be undertaken to reduce the impact of the change. (How will the mitigation be secured, i.e. is a change to a management plan required?)***	***Any cumulative impacts?***	***Y/N e.g. Are new receptors effected that were not previously? Are effects significant where they were not previously?***
Landscape e.g. additional loss of trees or vegetation	Yes	Document 6.2 ES Vol 2: Chapter 10 Section 4.7	The ES concludes that the works authorised by the 2014 Order at Tottenham substation will result in moderate/ substantial landscape effects during construction, within Townscape Character Area (TCA) 1A: Tottenham Marshes, due to temporary vegetation loss, and construction activity, fencing and machinery within the open marshland landscape. These construction phase landscape effects were assessed as significant. For landscape elements (scrub, neutral grassland and Pymmes Brook) and for other TCAs (Industrial/Trading Estates), construction effects were assessed as not significant, with losses being small scale, temporary, or occurring within a landscape already characterised by utilities infrastructure.	Proposed Change 1 will introduce a taller pylon. Proposed Change 2 will introduce a new pylon. Proposed Change 3 will introduce sections of new OHL. As these Proposed Changes will be seen in the context of existing infrastructure, it is concluded that they would not appear out of place within the existing landscape context. Proposed Change 5 will allow existing vegetation to the east of Pymmes Brook to be retained. Retention of this vegetation would maintain baseline landscape conditions in this area and would not increase the extent of landscape change relative to that assessed in the ES. The appraisal confirms that, in relation to landscape receptors assessed in the ES, there will be no change to the level or significance of effects reported in the ES and therefore no materially new or materially different significant effects to those reported in the ES.	No additional mitigation is required, beyond that included in the CEMP secured by Requirement 13 in Schedule 2 to the 2014 Order.	None. The Meridian Water Development introduces a new and evolving residential character area. This change to the baseline is acknowledged; however, the Proposed Changes do not contribute further to this transition in character. The Proposed Changes will remain within an established infrastructure dominated context and will not increase landscape effects on the new residential area. Therefore, no cumulative landscape effects arise beyond those generated by Meridian Water Development on its own.	No. The Proposed Changes do not give rise to any materially new or materially different significant landscape effects compared to those reported in the ES.

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			During operation, reinstatement of vegetation will reduce effects to slight/moderate or neutral, with no significant long term landscape effects reported for any landscape receptor.	For TCA 3D: Meridian Water Development, which reflects a change in landscape character since the ES, the Proposed Changes would represent a limited intervention within a developing urban townscape. The changes would not materially alter the overall landscape character or integrity of this area, and landscape effects would remain not significant. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant landscape environmental effects compared to those reported in the ES.			
Visual Amenity e.g. change to permanent structures	Yes	Document 6.2 ES Vol 2: Section 10.13 Table 10.11	The ES assessed visual effects from 14 representative viewpoints as set out in the ES. Significant visual effects were identified only during the construction phase, and only for close range viewpoints where temporary construction activity, fencing, machinery and the presence of both VC1 and VC1R in the view created a high magnitude of change. These significant construction-phase effects were identified at viewpoints 1, 2, 4, 7 and 8, all within or immediately adjacent to Tottenham	Proposed Changes 1, 2 and 3 would slightly increase the visibility of electrical infrastructure in some close-range views, through the introduction of a taller pylon (VC1R), a new pylon (ZBC44) and two additional spans of OHL. These changes would be perceived within views already characterised by existing pylons, OHL and substation infrastructure, as described in the ES baseline. For viewpoints assessed in the ES, the appraisal confirms that the visual effects of the Proposed Changes would be consistent with those reported in the ES, with some views experiencing a small increase	No change in mitigation is required beyond that included in the CEMP secured by Requirement 13 in Schedule 2 in the 2014 Order.	None. Views in the surrounding area now include construction activity at Meridian Water Development, and the completed residential area will be part of future views. The Proposed Changes will not add to or intensify this change. Therefore, the Proposed Changes will not give rise to any materially new or materially different cumulative visual effects compared to those reported in the ES.	No. Whilst three new viewpoints have been appraised, the Proposed Changes do not give rise to any materially new or materially different significant visual effects compared to those reported in the ES.

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			Marshes. For all other viewpoints, effects during construction were assessed as not significant, due to screening by vegetation and built form, and because pylons and OHLs are established components of the local views. During operation, the ES concluded that no viewpoint will experience significant visual effects.	in the magnitude of change during construction. Where construction-phase visual effects were assessed as significant, they would remain significant for the same reasons, and where they were assessed as not significant, they would remain not significant. The Proposed Changes therefore do not give rise to any materially new or materially different significant visual effects compared to those reported in the ES. Due to the updated baseline the following additional viewpoints have been identified that were not included in the ES: • Viewpoint 15 (Meridian Water Development): emerging residential area, • Viewpoint 16 (Higham Hill Park): local open space, • Viewpoint 17 (NCR1 at Picketts Lock): regional recreational route. For all three viewpoints, views already include existing pylons and other large-scale infrastructure. The introduction of a taller pylon, a new pylon and additional spans of OHL would not introduce unfamiliar or incongruous features. Visibility of the Proposed Changes would be limited, heavily filtered, or experienced in the context of existing infrastructure. As a result, the Proposed Changes would not			

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				give rise to materially new or materially different significant visual effects compared to those reported in the ES.			
Lighting e.g. cause for deviation from lighting scheme	No	Document 6.2 ES Vol 2: Section 3.3. Para 3.3.28	In the ES, no lighting is proposed for Tottenham substation.	The Proposed Changes do not require different lighting conditions from those considered in the ES. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant lighting effects compared to those reported in the ES.	No mitigation is required.	None.	No. In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant lighting effects compared to those reported in the ES.
Historic Environment e.g. increased impact to assets	Yes	Document 6.2 ES Vol 2: Section 12.4	The ES reported that the historic environment at Tottenham may be affected through direct disturbance of heritage assets/ archaeological deposits associated with an APA during construction, as a result of excavation of cable trenches at Tottenham Marshes, or through changes to the settings of heritage assets that may arise as a result of the presence of new structures or changes in land use (referred to here as operational effects). The ES concluded that the new VC1R pylon or undergrounding of cables would not have an impact on the setting of any designated heritage assets, as there are none present with a 1km radius.	There are no designated heritage assets (scheduled monuments, listed buildings, registered parks and gardens or conservation areas) within 500m of Tottenham substation. The nearest designated heritage assets to pylon VC1R are a group of three Grade II listed buildings associated with the Chingford Mill Pumping Station, 1.4km to the north - east. There are 34 entries for non-designated features within 500m of Tottenham substation, none of which are within Order Limits. There is potential for the presence of subsurface archaeological deposits within the site of the proposed Tottenham substation works. Construction impacts on the historic environment may arise from ground works including excavation of the ground, and additional piling depths in new locations from those consented	No change in mitigation is required beyond that included in the written scheme for the investigation of archaeological interest secured by Requirement 14 in Schedule 2 of the 2014 Order.	None	No. In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant environmental effects on the historic environment compared to those reported in the ES.

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			The ES concluded there were no significant effects on the historic environment during construction or operation.	associated with Proposed Changes 1 and 2. Proposed Changes 1 and 2 will not have a significant effect on below ground archaeological remains during construction and it is comparable to that reported in ES. Excavation works associated with the Proposed Changes 1 and 2 will implement the same archaeological mitigation (archaeological monitoring) as identified within the Construction Environmental Management Plan (CEMP), as secured by Requirement 14 in Schedule 2 of the 2014 Order. Proposed Changes 3 and 4 will not require any excavation of the ground therefore there will be no impacts to below ground archaeological remains during construction. Proposed Change 5 eliminates the need for the excavations required for the underground cable bypass that were included in the 2014 Order. The ES concludes that “there were no known historic features within the proposed cable route but there is potentially unidentified features to be present”. The ES reported no significant effects on the historic environment from the underground cable bypass. Therefore, no change is anticipated from Proposed Change 5 and the removal of			

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				the underground cable bypass excavations. There will be no construction effects to designated or known non-designated heritage assets as there are none within 500m of the Proposed Changes. Localised construction effects as a result of the Proposed Changes are predicted to deposits associated with the Lea Valley Archaeological Priority Area (APA). As with the underground Cable Bypass in the 2014 Order, the Proposed Changes fall within this APA and the Proposed Changes will be small in scale and nature in comparison to that of the APA as a whole, and therefore any potential impact would be small, localised and not significant. With regard to impacts arising from change to the settings of heritage assets, the new pylon ZBC44 and increased height of pylon VC1R will not affect the assessment in the ES for operation and no significant effects to designated heritage assets and their setting are anticipated to arise. This is because there are no designated heritage assets within a 1.3km radius of the Proposed Changes. Consequently, any effect on the setting of such assets as a result of the presence of new and replacement pylons as well as spans of new OHL will be of a negligible magnitude of effect due to screening provided by			

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				intervening distance, built forms, and mature planting, representing less than substantial harm to their heritage significance and resulting in no significant effect. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant historic environment effects compared to those reported in the ES.			
Biodiversity e.g. Change to BMS method, additional impact	Yes	Document 6.2 ES Vol 2: Section 9.4	The ES identified that the only potential for a likely significant effect was on the Tottenham Marshes Site of Borough Importance for Nature Conservation (SBINC) relating to the permanent and temporary loss of semi-improved grassland and scrub during construction. The ES concluded there would be no effect on the SBINCs integrity following restoration of the cable route, and therefore the effects on the SBINC would not be significant during operation. Temporary losses were associated primarily with installation of the authorised underground cable bypass, with approximately 2ha of semi-improved grassland and 0.2ha of scrub removed temporarily (between March 2014 and January 2016). Permanent losses	Whilst no additional habitat loss is required to facilitate Proposed Changes 2 and 3, the construction of pylon VC1R through Proposed Change 1 will require the permanent loss of approximately 0.1ha of semi-improved grassland and 0.1ha of scrub, alongside temporary loss of approximately 0.5ha of semi-improved grassland and ruderal vegetation. Proposed Changes 2 and 3 fall within habitat types already assessed in the ES and are comparable in scale and ecological value to those previously reported. The habitats affected remain of low to moderate ecological value and are not critical to the integrity of designated features. As such, Proposed Changes 1, 2 and 3 do not alter the validity of the ES baseline or its conclusions regarding effects on the SBINC. Proposed Change 5 will mean there will be no temporary losses associated with	No additional mitigation is required, beyond that included in the CEMP secured by Requirement 13 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to any materially new or materially different significant biodiversity effects compared to those reported in the ES.

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			comprised only 0.2ha of scrub and semi-improved grassland habitats that are widespread within the SBINC and not of intrinsically high ecological value. Consequently, the ES concluded that these losses will not affect the conservation status of the habitats for which the SBINC is designated, and therefore the losses will not be significant during operation. For species, the ES reported that: • Breeding birds may be affected through permanent loss of scrub and woodland, but temporary vegetation removal around pylons will not result in detectable changes to local populations; • Wintering birds, bats, and reptiles will not experience significant effects; and • Water vole may experience a benefit due to habitat management, but the effect on population conservation status will be insignificant.	installation of the authorised underground cable bypass and approximately 2ha of semi-improved grassland and 0.2ha of scrub will be retained. With reinstatement of the habitat, the ES considered that the residual effect during operation on this habitat was not significant and therefore is comparable with that reported in the ES. The ES considered that construction of NLRP would be completed during the summer; however, the Proposed Changes will be constructed during winter months. Disturbance to wintering birds present at the Lee Valley SPA/Ramsar site from the Proposed Changes is considered to be not significant during construction and operation due to the distance between the Site and Lee Valley SPA/Ramsar site and wintering birds surveys completed in 2024/2025 show that notifiable wintering birds from Lee Valley SPA/Ramsar site do not use the Site. Therefore, operational effects on wintering birds are not significant. The Proposed Changes do not introduce new pathways for impact, such as new lighting, new access corridors, or additional noise-generating activities. No materially new or materially different significant effects are anticipated for breeding birds, wintering birds,			

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				bats, reptiles, or water vole. All effects remain insignificant as concluded in the ES and the embedded mitigation measures secured through the 2014 Order continue to be suitable and proportionate. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant biodiversity effects compared to those reported in the ES.			
Traffic Levels e.g. increased levels	Yes	Document 6.2 ES Vol 2: Section 6.6 Para 6.6.42	The ES reported that there will be a small increase in traffic using Leeside Road during construction. The ES predicted that there will be approximately 50 vehicle movements on and off site per day. No significant increase in traffic was anticipated during construction. The ES assessed that access to the Tottenham substation will be taken via the A1055 Watermead Way, which links to the A406(T) North Circular Road to the north. The ES concluded that there are no likely significant traffic related environmental effects at Tottenham Substation during construction and operation.	Traffic volumes will be slightly reduced from those considered in the ES by the removal of authorised development as included in Proposed Change 5. However, the proposed traffic from the Proposed Changes will not be significantly different from the construction vehicle movements per day as assessed in the ES. Based on the retained distances to the nearest receptors, the short duration of the works, recommended best practice measures consented as part of the 2014 Order, and the implementation of a Construction Traffic Management Plan (CTMP) secured by Requirement 9 in Schedule 2 of the 2014 Order, it is considered that the effects will not be significant and the conclusions of the ES will remain valid for traffic. In conclusion, the Proposed Changes do not give rise to materially new or materially	No additional mitigation is required, beyond that included in the CTMP secured by Requirement 9 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant traffic effects compared to those reported in the ES.

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				different significant environment effects from traffic compared to those reported in the ES			
Transport e.g. new disruption or access	No	Document 6.2 ES Vol 2: Section 6.4 Para 6.4.11	The ES assessed that access to the Tottenham substation will be taken via the A1055 Watermead Way, which links to the A406(T) North Circular Road to the north. The ES identified a site-specific control measure at A1055 Watermead Way/Marigold Road, including redesigning the signalised junction to include a dedicated cyclists/pedestrian crossing to minimise conflict between site transport and vulnerable road users. Based on the identified controls, effects on local road users, and owners/ users of adjacent land were deemed not likely to be significant. The ES concluded that there are no likely significant transport related environmental effects at Tottenham Substation during construction and operation.	The same access routes will be used for Proposed Changes 1 to 5, therefore there are no changes to the baseline as considered in the ES. Based on the retained distances to the nearest receptors, the short duration of the works, recommended best practice measures consented as part of the 2014 Order, and the implementation of a CTMP secured by Requirement 9 in Schedule 2 of the 2014 Order, it is considered that the effects will not be significant and the conclusions of the ES will remain valid for transport. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant environment effects from transport compared to those reported in the ES	No additional mitigation is required beyond that included in the CTMP secured by Requirement 9 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant transport effects compared to those reported in the ES.
Noise e.g. Increased levels	No	Document 6.2 ES Vol 2: Section 8.4	The ES identified the nearest receptors to the underground cable bypass at Tottenham to be at Heybourne Road, Tottenham.	The Proposed Changes have the potential to impact on nearby Noise Sensitive Receptors (NSRs). The ES identified the nearest proposed receptors to Tottenham substation to be at	No additional mitigation is required beyond that included in the CEMP as secured by Requirement 13 in Schedule 2 in the 2014 Order.	None. There is potential for the construction periods for Meridian Water Development and the Proposed Changes to overlap. Due to the distance between the	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant noise effects compared to

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			Construction – The ES reported that significant effects due to construction works were unlikely, and as such an assessment of construction noise and vibration was scoped out of the ES. Notwithstanding this, best practice measures were recommended and are detailed in Table 7.3 of the ES. These best practice measures are included in the CEMP as secured by Requirement 13 in Schedule 2 in the 2014 Order. Operation - No increases in operational traffic were anticipated. Noise from the uprated ZBC line was concluded to not be significant.	Heybourne Road to the west of the Proposed Changes. Since the 2014 Order was consented Meridian Water Development, a new residential receptor to the north of the Proposed Changes has been consented. Phase One of Meridian Water Development has been constructed and is now occupied. Phase Two of Meridian Water Development is under construction, and the construction times for Phase Three and Four of Meridian Water Development are currently unknown. A noise assessment of the Proposed Changes has been completed in line with new NGET guidance which was released after the 2014 Order. This noise assessment is reported in Appendix E. Construction – Based on the receptors being located on the northern side of Leeside Road, and the short duration of the works, it is considered that the Proposed Changes do not give rise to significant effects on NSRs. Operation – As an underground cable bypass is no longer proposed, a noise impact assessment has been undertaken for the Proposed Change (see Appendix E). The results of the assessment show that no adverse impact is predicted at the NSRs. Under		Proposed Changes and Meridian Water Development, it is likely that the construction of Meridian Water Development will be located much closer to any on-site receptors associated with Meridian Water Development than the Proposed Changes, and that construction of Meridian Water Development will dominate the noise levels at these receptors. There are proposed to be commercial units on the ground and first floors associated with Phase Two of Meridian Water Development. The noise likely to be generated by these units is unknown at this time, however given the low noise levels predicted from the Proposed Changes at Meridian Water Development, it is considered unlikely that noise from the Proposed Changes will contribute to the overall noise level at receptors. Therefore, the cumulative effect will remain not significant.	those reported in the ES.

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				the requirements of National Grid Technical Guidance Note TGN(E)322, where the combined wet/dry noise level falls in the 'No Adverse Impact' category, the noise from the OHL is acceptable and no further action or assessment is necessary. The magnitude of impact is negligible, which results in a negligible adverse effect, which is not significant.			
Vibration e.g. increased levels	No	Document 6.2 ES Vol 2: Section 8.4	The ES identified the nearest receptors to works at Tottenham to be at Heybourne Road, Tottenham. The ES concluded that vibration levels resultant from vehicular traffic movements and construction activities and plant (piling/ excavations) were not significant for construction or operation.	Construction vibration may be created from piling to a greater depth associated with Proposed Change 1 and piling additional foundations associated with Proposed Change 2. No construction vibration will be generated from Proposed Changes 3, 4 and 5. Proposed Change 5 will remove the need for excavations to the east of Pymmes Brooks and the source of construction vibration in that area as had been assessed in the ES. Construction vibration may have the potential to impact on nearby NSRs. The NSRs identified for vibration in the ES were "residents in the vicinity of the construction activity". However, as documented above, Meridan Water Development has since been consented, which has introduced new residential receptors. The NSR for Proposed Change 2 is considered to be Meridian Water Development while the	No additional mitigation is required beyond that included in the CEMP secured by Requirement 13 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant vibration effects compared to those reported in the ES.

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				NSR for Proposed Change 1 continues to be Heybourne Proposed Change 2 will generate similar construction vibration levels to that considered in the ES. Proposed Change 2 is located at a reasonable distance away from their NSRs and therefore, it is concluded there will be no change in significance of effect on the NSRs from Proposed Change 2. Similarly, Proposed Change 1 will generate similar construction vibration levels to that considered in the ES. Proposed Change 1 is located at a reasonable distance away from Meridian Water Development, the closest NSR and therefore, it can be concluded there will be no significant effect on the NSR from Proposed Change 1. No operational vibration is anticipated from Proposed Change 1, 2, 4 and 5. Operational vibration may occur as a direct result of wind-induced vibration, wake conduction (multiple conductors within close proximity affecting each other's wake), mechanical factors (such as conductor tension and design), and may also occur as a result of other weather conditions such as humidity and precipitation.			

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				Proposed Change 3 will introduce a new OHL however no significant change in operational vibration is anticipated and mitigation to reduce operational vibration is embedded within the OHL design. The mitigation remains the same as that considered for the other OHLs assessed in the ES. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant vibration effects compared to those reported in the ES			
Air Quality e.g. where mitigation may be insufficient	No	Document 6.2 ES Vol 2: Section 7.4	Haringey Council has declared its whole borough an Air Quality Management Area (AQMA) for exceedances of the annual mean NO2 AQO and the 24 hour mean PM10 AQO. The main source of pollution in Haringey was found to be from road traffic emissions. The ES stated “the Tottenham Marshes site is located close to an existing industrial area. The closest residential receptors are more than 300m to the west of the closest works around pylon VC1 and over 400m to the east of the cable works”. The ES concluded that any air quality issues arising from dust or traffic emissions during construction could be	Proposed Changes 1 to 5 will not result in a significant change to the traffic movements utilising the highway through and off the A1055 Watermead Way during construction. No additional operational traffic movements are anticipated (and therefore no subsequent emissions) as a result of the Proposed Changes. Based on the distances to the nearest receptors (residential and ecological receptors >300m away) as considered in the ES, the short duration of the works, recommended best practice measures consented as part of the 2014 Order, and the implementation of a CEMP and CTMP secured by Requirement 9 and 13 in Schedule 2 of the 2014 Order),	No additional mitigation is required beyond that included in the CTMP and CEMP secured by Requirement 9 and 13 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant air quality effects compared to those reported in the ES.

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			suitably managed with the control measures and best practice set out in the CEMP and CTMP. Additionally, the ES concluded that any emissions arising from operational traffic were deemed not to have a significant impact on air quality. The ES concluded that the proposals were unlikely to produce any significant increase in CO2 emissions and was therefore deemed insignificant in terms of contributions to climate change.	it is considered that the conclusions of the ES will remain valid for Air Quality. The following best practice measures should be followed: such as: • Covering skips to control odour; • No burning of any waste/ material; • Dampening of roadways to control dust; • Regular road sweeping/ washing; • Screening/ enclosure of stockpiles, generators, materials, and lorries; • Speed limit enforcement on highways; • Regularly maintaining construction vehicles, and ensuring they are mindfully located away from the nearest receptors; and • HGV transportation movements will be in accordance with the HGV construction traffic movements plan which will be prepared prior to commencement of the works. The Meridian Water Development is located to the north of the Proposed Changes and is a new air quality receptor. Meridian Two (phase two of Meridian Water Development) will be under construction during construction of the Proposed Changes. It is considered that the air quality			

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				mitigation included in the ES will suitably manage any air quality impacts on the Meridian Water Development and negligible air quality impacts on Merdian Water Development are anticipated. The Proposed Changes will not have a significant effect on the 2014 Order baseline as the decrease in Air Quality during construction is likely to be minimal with implementation of a CEMP and CTMP secured by Requirement 9 and 13 in Schedule 2 of the 2014 Order. No significant impacts associated with air quality are anticipated during operation. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant air quality effects compared to those reported in the ES.			
Hydrology / Water Environment e.g. new affect to water courses	No	Document 6.2 ES Vol 2: Section 13.4	<u>Surface water</u> Tottenham substation and the works at Tottenham Marshes are located to the west of Banbury Reservoir and north of Lockwood Reservoir. Pymmes Brook flows southwards down the full length of the site, while the River Lee Navigation flows to the east of the site. The River Lee and other watercourses continue to flow south outside the eastern boundary of the site around the reservoirs.	<u>Surface water</u> The increase in height of pylon VC1R (Proposed Change 1) and construction of new pylon ZBC44 (Proposed Change 2) will require additional piling works from that considered in the ES. No new pathway for surface water will arise from Proposed Change 1 and 2 compared to that considered in the ES. Proposed Change 5 will reduce overall piling requirements and excavation around Pymmes Brook, reducing the potential	<u>Surface water</u> No further mitigation measures are required beyond those stated in the surface and foul water drawings system details and CEMP secured by Requirement 10 and 13 in Schedule 2 in the 2014 Order. <u>Groundwater</u> As stated in the contaminated land and groundwater written scheme, and CEMP, the same concept of developing suitable Foundation Work Risk Assessments and	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant hydrology/water environment effects compared to those reported in the ES.

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			The ES summarised the potential effects of NLRP set out in the 2014 Order on surface water as a change in water quality from the increased sediments in run-off, and/or potential pollution from accidental spills or leaks. These effects were deemed to be not significant following the preparation of a Foundation Works Risk Assessment (FWRA) and CEMP. <u>Groundwater</u> Groundwater Vulnerability Mapping indicates that underlying the Tottenham area is a Secondary A aquifer. This follows the drift geology of the Lee Valley down towards the River Thames and is related to the Kempton Park Gravels. The bedrock deposits are designated a Principal aquifer and are related to the Thanet Sand Formation and Chalk, which are considered to be in hydraulic continuity. This aquifer is identified as not having high primary permeability but is important for local supplies and providing base flow to rivers. Creation of a pathway by piling through potentially contaminated made ground	pathway creation for contamination to enter surface water. Therefore, on balance no change in environmental effects is anticipated from the Proposed Changes compared to those reported in the ES. <u>Groundwater</u> The potential pathway creation from contaminated Made Ground and/or Kempton Park Gravels to underlying aquifers from Proposed Change 1 and 2 has the potential to impact groundwater quality however it is not considered to be significant, and not materially new or materially different to that considered in the ES. Mitigation measures for the impacts on groundwater were considered in the ES and were secured by Requirement 11 and 13 in Schedule 2 of the 2014 Order. Proposed Change 5 will reduce overall piling requirements and eliminate the need to excavate around Pymmes Brook, reducing the potential pathway creation for contamination to enter groundwater and surface water. Although the risk of contamination entering the groundwater and surface water is reduced it is not significantly different from that reported in the ES and no materially new or materially different significant environmental effects are anticipated compared to those reported in the ES.	subsequent implementation are considered suitable to mitigate any impacts to underlying aquifers. These measures are secured by Requirement 11 and 13 in Schedule 2 of the 2014 Order.		

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			into underlying aquifers (Secondary Kempton Park Gravel) with potential effects on groundwater quality was deemed to be not significant following the preparation of a FWRA and CEMP.				
Geology, Soils and Agriculture e.g. controls not applicable	Yes	Document 6.2 ES Vol 2: Section 13.4	As reported in the ES, topsoil and/or subsoil may be removed from beneath proposed permanent structures at the Tottenham Marshes/ former bus depot as the development will occur partially outside of the existing substation. Temporary removal of soil resources may occur at construction laydown areas which will be reinstated after completion of the works. The soils in and around the Tottenham area are not considered to be particularly sensitive or of good quality and are classified as urban or non-agricultural. Based on this and the relatively small area of disturbance, the ES concluded there was no significant effect.	As a result of Proposed Change 1, pylon VC1R will require deeper foundations to facilitate the increase in pylon height. The deepened piles will remain within the London Clay layer to prevent potential pathway creation despite the height increase of the pylons. Similarly, Proposed Change 2 will also remain within the London Clay layer to prevent potential pathway creation. This remains the same as the other pylons already consented for the Project. Based on this and the relatively small area of disturbance from the 2014 Order, it is considered that there will be no significant effect on geology and soils. Agricultural land was screened out as not present. This approach is consistent with the ES. Proposed Changes 3 and 4 will not require excavation of soils; therefore, no change in environmental effects is anticipated from these Proposed Changes. Proposed Change 5 eliminates the need to excavate soil and disturb geology to the east of	No additional mitigation is required, beyond that included in the CEMP secured by Requirement 13 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant geology, soils and agriculture effects compared to those reported in the ES.

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				Pymmes Brook. The soils present are not particularly sensitive or of good quality and are classified as urban or non-agricultural in the ES. There will be no significant effect on soils from Proposed Change 5. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant geology effects compared to those reported in the ES.			
Contaminated Land e.g. change to works within	Yes	Document 6.2 ES Vol 2: Section 13.4	The ES reported that topsoil and/or subsoil may be removed from beneath proposed permanent pylons at the Tottenham Marshes / former bus depot. The ES concluded that with the embedded environmental mitigation in the design, the effects on land quality were not significant. As considered in the ES, there are known sporadic/ localised sources of hydrocarbon contamination at the former bus depot area, predominantly, though not exclusively, within the underlying Kempton Park Gravels. This source of contamination is likely due to the significant industrial legacy of the wider area and at the former bus depot. The significance of this is dependent upon the contamination presence specific to the structure, e.g. pylons, and especially	The environmental effects from piling of the proposed pylon VC1R (Proposed Change 1) with increased height and the additional piling associated with pylon ZBC44 (Proposed Change 2) will be assessed in the FWRA as set out in the CEMP which is secured by Requirement 13 in Schedule 2 of the 2014 Order. FWRAs will be prepared where piling will be undertaken. Also, should further contamination be identified then a written scheme should be prepared in consultation with the EA and approved by the Local Planning Authority (LPA) prior to commencement of works, as secured by Requirement 11 in Schedule 2 of the 2014 Order. Proposed Change 3 involves above-ground works and will have no impact on the findings and environmental measures stated in the ES relating to contaminated land.	No further mitigation is required in association with the Proposed Changes. As stated in the contaminated land and groundwater written scheme, and CEMP, the same concept of developing suitable Foundation Work Risk Assessments and subsequent implementation are considered suitable to mitigate any impacts from contaminated land and groundwater. These measures are secured by Requirement 11 and 13 in Schedule 2 of the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant contaminated land effects compared to those reported in the ES.

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			the length/type of piles employed. The ES concluded that although there was historical contamination present, the potential effects were not significant apart from those effects on groundwater which were considered to be significant. Necessary mitigation is secured by Requirements 11 and 13 in Schedule 2 of the 2014 Order which respectively requires a written scheme to deal with the contamination of groundwater; and a CEMP to be submitted to and approved in writing by the relevant planning authority. The ES confirmed that the environmental measures incorporated into the project will result in all of the effects identified in relation to land quality being reduced to not significant.	The ES only considered contamination at Tottenham substation and did not consider contamination at the location of the underground cable bypass which will be removed through the implementation of Proposed Change 5. Proposed Change 5 will not result in significant environmental effects. Therefore, Proposed Change 5 will not give rise to materially new or materially different significant environmental effects for land quality compared to those reported in the ES.			
Recreation	No	Document 6.2 ES Vol 2: Section 4.3. Para 4.3.11	The ES assessed the potential effects on recreation uses in the area surrounding Tottenham, including during the construction and operational stages and in combination with nearby developments. As stated within the ES, this section of the overhead alignment passes through the Tottenham region which features two public rights of	Proposed Changes 1 to 5 will not change the construction impact on any PRoW or public access previously considered in the ES. The Proposed Changes will have no significant effect on PRoW nor introduce any additional road closures, and there will be minimal recreational impacts given that there are alternative PRoW routes in the area. Footpath Z will remain closed as considered in the ES. The	N/A	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant recreational effects compared to those reported in the ES.

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			way (PRoW), namely Lee Valley Walk and Lee Valley Path. Additionally, the ES identified works in Tottenham Marshes lying outside the existing substation boundary, i.e. areas to the east and to the south of the existing substation lie within land which is designated as both a Local Wildlife Site and as an open space. In the vicinity, there is also Lee Valley Park (designated as a regional park by Haringey Council), and Tottenham Park (designated as a district park by the council). The ES concluded the following for each of these receptors: • Recreational PRoW users: Due to the short length of time for temporary foopaths, and the availability of alternative routes in the nearby area, there were no likely significant effects directly on users of recreational PRoWs. It was also deemed unlikely that the users of the PRoWs will be significantly affected by the temporary increase in construction traffic. • Effects on recreational users using Lee Valley Park: Despite an approximate temporary reduction of 2.8ha of	closure will allow construction access for the OHL works between pylons VC1R and VC2.			

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			open space, the ES concluded that works will not cause any break in continuity of open space along the Lee Valley and will provide a similar visitor experience and therefore concluded there were no likely significant effects on users of recreational PRoW.Effects on recreational users using the Tottenham Marshes: Tottenham Marshes was predicted to lose approximately 0.2ha of open space due to the construction of the VC1R compound. The area to be lost was deemed comparatively small in the context of the large amount of remaining open space available to the public east of Pymmes Brook and was deemed to be insignificant. • Effects on birdwatchers and other naturalists at Lee Valley SMINC/ LWS and Tottenham Marshes SBINC: For both sites the permanent reduction in size is relatively small, in the context of the wider site, and a large area will remain available for birdwatchers/ naturalists. The effects were deemed to be insignificant.				

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Cumulative Effects e.g. combination of above	Yes	N/A	The ES considered the likely cumulative effects of the scheme to be insignificant.	A search of Haringey and Enfield Council's Planning Portals identified the following seven recently approved (within the last 5 years) planning applications located within 1km of the Proposed Changes: • Planning ref. HGY/2022/0664 - 175 Willoughby Lane – The demolition and redevelopment of land in preparation for B2 and B8 uses, which was approved on 3 October 2023, located 0.68km west of the northernmost extent of the Site. • Planning ref. HGY/2024/1200 – 18 West Road Tottenham London - The demolition of an existing substation and part-demolition of existing warehouse and construction of 2no. substations, approved on 3 October 2024, located 0.65km west of the Site. • Planning ref. HGY/2024/1711 - Petrol Filling Station 1-13 Willoughby Lane– Demolition of existing sales building and MOT centre and re-erection of new sales building, approved 27 January 2025, located 0.46km west of the southernmost extent of the Site. • Planning ref. GY/2021/2248 - 27-31 Garman Road - Erection of two replacement B1/B2/B8 units following fire	No additional mitigation is required, beyond that included in the CEMP secured by Requirement 13 in Schedule 2 in the 2014 Order.	None.	No. In conclusion, the Proposed Changes do not give rise to materially new or materially different significant cumulative environmental effects compared to those reported in the ES.

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				damage and demolition of the original units, approved 14 September 2022, 200m west of the Site. • Meridian Water Phase 1a: 16/01197/RE3 | Development of Phase 1 of Meridian Water Development (known as Meridian One). Access for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road. • Meridian Water Phase 1b: 21/04742/FUL | Development of Phase 1b of Meridian Water Development (known as Meridian One). Development phase 1 for a multi-phase, mixed-use development project, located immediately north of the Site, on the northern side of Leeside Road. • Meridian Water Phase 2: 19/02718/RE3 | Development of Phase 2 of Meridian Water Development. Development of Phase 2 of a multi-phase (three subphases (also known as Meridian Two, Meridian Three and Meridian Four)), mixed-use development project, located immediately north of the Site, on the northern side of Leeside All of the above planning applications are located within Tottenham's industrial area, which features several industrial			

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				structures including existing OHLs. The first four applications are redevelopment (demolition and replacement) projects which have already been consented. It is assumed that construction has commenced based on the construction periods provided in the planning applications. The supporting environmental documentation for these four redevelopment planning applications identified no significant residual environmental effects. All four applications are located within Tottenham's industrial area, which feature several industrial structures including existing OHLs. The introduction of the Proposed Changes would not change the existing environmental setting surrounding the four planning applications and would not present visual features that would be deemed out of place for the industrial setting. Additionally, the four planning applications are located to the west of Mowlem Trading Estate, used for commercial and light industrial purposes. This trading estate acts as screening for nearby residential receptors for any potential visual, noise and air quality impacts that may arise as a result of the Proposed Changed.			

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				It has been assumed the redevelopment applications are now constructed. Should it be the case that construction has been delayed, then it is considered unlikely that the construction of the planning applications would present cumulative impacts during construction or operation of the Proposed Changes, due to: • The distant proximity of the four planning applications to the location of the Site, and • The implementation of appropriate transport management plans, air quality and noise management. The Meridian Water Development, which lies to the north of the Proposed Changes beyond Leeside Road, is a new consented development since the 2014 Order. The Meridian Water Development has been considered for cumulative impacts with the Proposed Changes, due to the below factors: • The Meridian Water Development is identified as the nearest receptor to the Proposed Changes. • At the time of its application, Meridian Water Development was deemed EIA development. Meridian One has been constructed and is in use, therefore it has been scoped out of this cumulative section as			

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				it has already been considered as a receptor in the environmental topics in this AoC. Meridian Two is under construction. The possible cumulative effects of Meridian Two, Three and Four have been considered in the environmental topics and the cumulative impacts in this AoC, and include air quality, noise, landscape and visual, and recreation.			

Assessment of Change

Assessment of Change Summary / Review			
Significance of change to DCO? E.g. *Not a change to DCO* *Additional approvals required* *Additional planning consents required* *Non-material change to DCO* *Material change to DCO*	**Should the Proposed Change be made?** *Y/N*	**Any additional consents/ permissions required? E.g.** • *Landowner agreement* • *Flood Risk Activity Permit /Discharge Permit* • *Protected Species Licence*	**External Consultation Required? E.g.** • *Relevant Local Planning Authority* • *Landowner* • *Environment Agency/ Natural England*
The Proposed Changes do not give rise to any materially new or materially different significant environmental effects compared to those reported in the ES.	Yes	None. NGET is not seeking compulsory acquisition powers as part of the NMC-1 application. The only plot number affected by the proposed works not located on land which NGET owns is plot 390, in which pylon VC1R will be located. Plot 390 is owned by Lee Valley Regional Park Authority (LVRPA). NGET has already acquired permanent rights over plot 390 by way of a GVD executed on 25 January 2019. Due to the relocation of VC1R, NGET is in ongoing discussions with LVRPA.	No pre-application consultation required in legislation. NGET has engaged with Enfield Council, Haringey Council and Waltham Forest Council on the Proposed Changes. Prior to submitting the NMC-1 application NGET wrote to all residents within 500m of the Proposed Changes to explain the proposed NMC-1 application. No responses were received.

Assessment of Change Summary Narrative
The Proposed Changes do not give rise to any materially new or materially different significant environmental effects compared to those reported in the ES.

Appendix C

Supporting Technical Note – Landscape and Visual Appraisal

Document enclosed separately

Appendix D

Supporting Technical Note – Noise Impact Assessment

Document enclosed separately

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