

HDCI Hayes Bridge Limited

Bullsbrook Road Substation

Infrastructure Power Position Statement

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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1. Introduction

This Infrastructure Power Position Statement has been prepared on behalf of HDCI Hayes Bridge Limited by Ove Arup & Partners Limited ('Arup'), who are appointed as design consultants on the new 'Bullsbrook Road Substation' development at Heathrow Interchange Park, Hayes, London ('Heathrow Interchange').

1.1 Location

Bullsbrook Road Substation will be constructed where Heathrow Interchange Park 'Unit 1' is currently located (Figure 1). The main access route to Bullsbrook Road Substation will be the existing northern entrance to Heathrow Interchange on Bullsbrook Road, with the building also bordering Bullsbrook Road on its eastern side. The approximate grid reference for the site is TQ115803.



Figure 1 Proposed location of Bullsbrook Road Substation Development (in red)

1.2 Proposed Development

The Bullsbrook Road Substation development will be a 66/11.5kV, 150MW substation, comprising a control building, transformers, car parking, vehicular access and associated soft landscaping. The proposed building will sit within the footprint of the existing Unit 1 building, which will be partially demolished to facilitate the new development.



Figure 2 Proposed layout and extent of Bullsbrook Road Substation development

The purpose of the development is to facilitate and receive new high voltage (HV) electrical supplies from National Grid infrastructure emanating at the National Grid North Hyde facility, to serve new Data Centre buildings that are planned to be constructed as part of the 'Hayes Digital Park' development.

Note: the construction of the afore mentioned new data centres and other ancillary/community buildings, as well as any proposed new HV reinforcement and distribution works are subject to a number of separate existing and future planning submissions.

2. Site-Specific Infrastructure & Power Position Assessment

2.1 Utility Overview

There are widely documented challenges with power availability within the West London area, as such a range of upgrade works are being undertaken across the wider area by key stakeholders (Including National Grid and SSE). This includes upgrade work to the National Grid substation at North Hyde along with the construction of a new National Grid substation at Uxbridge Moor (adjacent to the existing National Grid substation at Iver Heath).

When applying for new connections developers are allocated power from either local District Network Operator (DNO) SSE or National Grid. This is allocated on a first come first served basis and upon reaching the maximum capacity available developers are responsible for any upgrade works required to achieve the power requested. Therefore, the onus is on developers to fund the electrical network reinforcement works when required.

2.2 Power Demand Context

The Hayes Digital Park development comprises data centres and associated facilities (permitted under planning application REF 38421/APP/2021/4045) and a number of future data centres (which will be subject to future planning applications) on the Heathrow Interchange Business Park site.

In total, 250MW of power has been secured for the complete Hayes Digital Park development, derived from two new, separate and independent National Grid connections. To establish these new HV connections, reinforcement works will be carried out on the regional National Grid HV network which will be funded by HDCI Hayes Bridge Limited, forming part of a pre-agreed arrangement to secure power for the whole development.

As part of this funding agreement HDCI Hayes Bridge Limited have released 40MW of capacity previously allocated to the site. This capacity will go back into the SSE power availability 'pool' thus benefiting other developers within the local area.

Due to the scale of the connections and the scope of the National Grid Reinforcement works, the full power provision will be delivered in two phases, for both connections. The supply connections and associated phasing are as follows:

'Bullsbrook Road Substation' (subject of this planning application)

- 150MW total HV electrical power supply capacity
- Fed from North Hyde National Grid infrastructure
- Initial 99MW supply operational October 2027
- Remaining 51MW supply operational October 2029

'Substation 1' (permitted under planning application 38421/APP/2021/4045)

- 100MW total HV electrical power supply capacity
- Fed from Uxbridge Moor/Iver B National Grid infrastructure
- Initial 50MW supply operational October 2027
- Remaining 50MW supply operational October 2029

Upon completion of all planned National Grid HV Reinforcement works, the two initial data centre buildings permitted under REF 38421/APP/2021/4045 (referred to here as ‘*LON 4*’ & ‘*LON 5*’) will be served from a substation also permitted under that same scheme (referred to here as ‘*Substation 1*’). Each of these initial data centres will have an electrical power demand of up to 50MW each.

The ‘future’ centre buildings (referred to as *LON 6*, *LON 7* & *LON 8*) will be served from the Bullsbrook Road Substation. These data centres will have a combined power demand of up to 150MW in total.

However, due to the duration of the National Grid Reinforcement works, there is an interim period (October 2027 – October 2029) during which the National Grid HV utility supply to Substation 1 has insufficient capacity to cater for both the *LON 4* & *LON 5* data centre buildings. As such, the Bullsbrook Road Substation must be constructed in advance of the construction of the *LON 6*, *7* & *8* data centre buildings themselves to temporarily ‘reinforce’ Substation 1 during this period.

Refer to Appendix A for substation and data centre building power supply phasing summary diagram.

2.3 Proposed Bullsbrook Road Substation LV Power Demand

Power for computers, lighting and auxiliary services within the Bullsbrook Road Substation shall be derived directly from the new 150MW electrical supply. Therefore no dedicated LV supply shall be requested for the substation development, and there is no anticipated negative impact on the local power network.

Appendix A - Substation And Data Centre Building Power Supply Phasing Summary Diagram

Hayes Digital Park Power Utilisation

