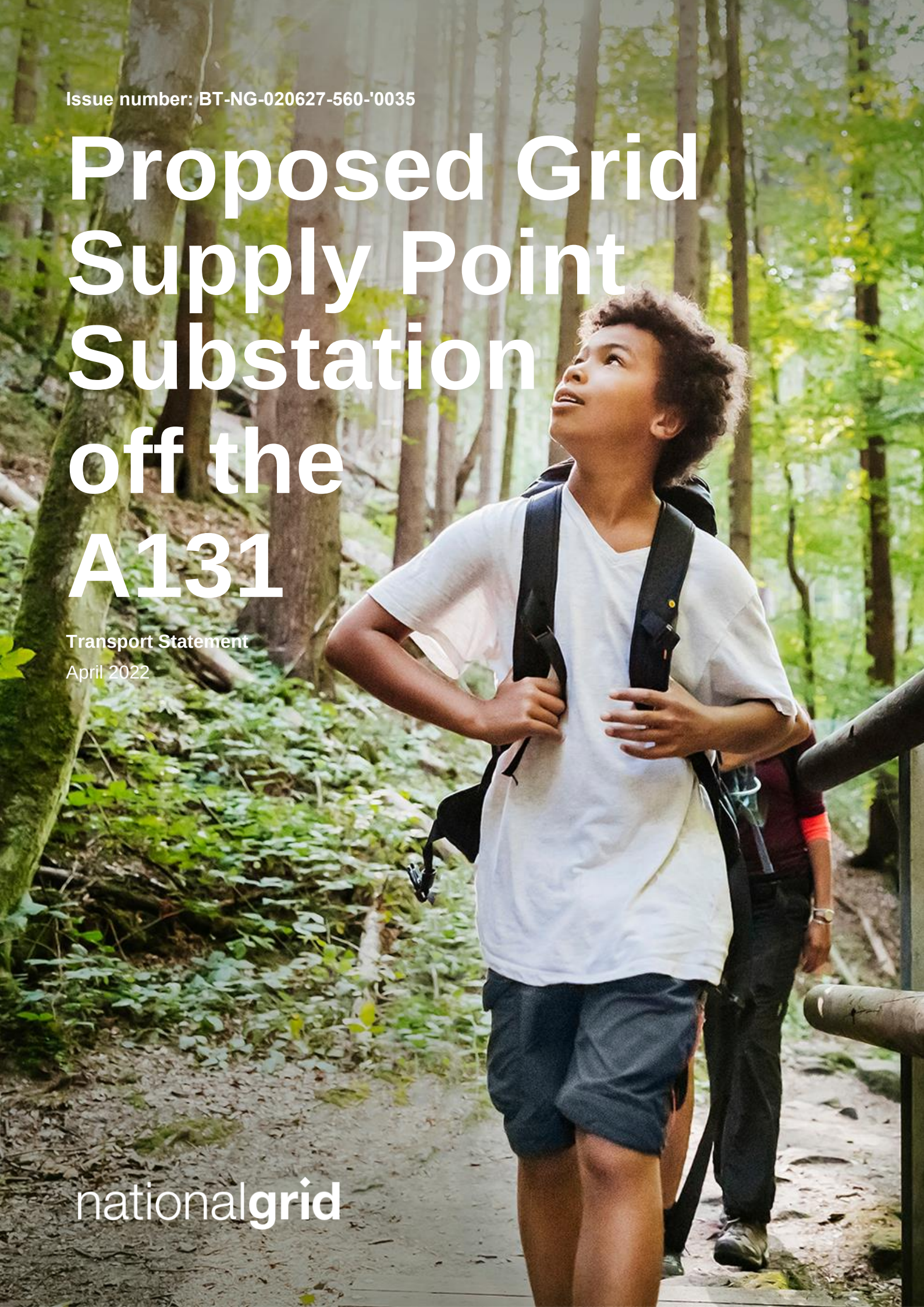
Issue number: BT-NG-020627-560-'0035

Proposed Grid Supply Point Substation off the A131

Transport Statement

April 2022



nationalgrid

Page intentionally left blank

Contents

1. Introduction

1.1 Overview

1.1.1 This Transport Statement has been prepared in respect of a new Grid Supply Point (GSP) substation off the A131 (hereafter referred to as 'the proposed GSP substation') by National Grid Electricity Transmission plc (hereafter referred to as 'National Grid'). The proposed GSP substation is required to facilitate the removal of approximately 25km of existing 132 kilovolt (kV) overhead line in connection with the proposed reinforcement of the 400 kV transmission network between Bramford Substation in Suffolk and Twinstead Tee in Essex (hereafter referred to as 'the wider reinforcement project').

1.1.2 The proposed GSP substation is located off the A131 between Butler's Wood and Waldegrave Wood, to the east of Wickham Saint Paul and to the southwest of Sudbury.

1.2 Report Structure

1.2.1 This Transport Statement comprises the following sections:

- Section 2 outlines the planning policy context.
- Section 3 describes the site accessibility by mode.
- Section 4 describes the proposed GSP substation.
- Section 5 details how the proposed GSP substation impacts on the transport network.
- Section 6 describes the construction activity and the measures taken to avoid or reduce impacts associated with construction.
- Section 7 provides the conclusions of the report.

2. Planning Policy

2.1.1 This section provides a review of the transport policy context. The proposed GSP substation will comply with the policy requirements and guidance identified in this section.

Table 1. Transport statement policy considerations

Policy	Policy/Guidance and TS Considerations
Overarching National Policy Statement for Energy EN-1	Paragraph 5.13.2 of Policy EN -1 states that '*the consideration and mitigation of transport impacts is an essential part of Government's wider policy objectives for sustainable development*.' The Transport Statement will set out the impacts for both operation and construction on the transportation network (Sections 5 and 6).
NPS for Electricity Networks Infrastructure (EN-5)	Paragraph 2.12.3 of Policy EN-5 notes that surface contamination on a conductor or accidental damage during transport or installation can cause local enhancement of electric stress and initiate discharge activity leading to the generation of noise.
National Planning Policy Framework (NPPF)	The NPPF constitutes guidance for local planning authorities and decision-makers both in drawing up plans and as a material consideration in determining applications. It sets out the government's planning policies for England and how these are expected to be applied. a) Para 104 (d) indicates that '*Transport issues should be considered from the earliest stages of plan-making and development proposals, so that the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains*.' The Transport Statement will identify the effects of the proposed GSP substation on traffic and transport and develop appropriate measures to avoid or reduce effects where relevant.
Highways Agency (1993) Design Manual for Roads & Bridges (DMRB) Volume 11: Environmental Assessment, Section 3, Part 8 – Pedestrians, Cyclists, Equestrians and Community Effects [now withdrawn].	This document provides useful quantifiable thresholds for assessing the magnitude of impact of changes in traffic volumes.

3. Existing Baseline

3.1 Site context

3.1.1 Figure 1 of the Environmental Appraisal shows the location of the proposed GSP substation and the site boundary for where an application for planning permission is being sought. The site is located between Butler's Wood and Waldegrave Wood, approximately 5km south of Sudbury and 1km northeast of Wickham St Paul. It is accessed directly from the A131 to the east.

3.2 Cycle and Pedestrian Access

3.2.1 The study area for the assessment of impacts on the National Cycle Network (NCN) and Public Rights of Way (PRoW) is 500m from the site. There are no NCNs in the study area. There are approximately 10 interlinked PRoW within the study area, including a network of PRoWs extending eastwards from the A131 opposite the entrance to the proposed access road and there are PRoW to the west of the site, the nearest of which is 185m from the site, these cross the existing 400kV line. The PRoW are shown in Figure 3 of the Environmental Appraisal.

3.3 Public Transport

3.3.1 There is limited bus and rail provision within the study area. Only one bus service, the 89X operated by Hedingham & Chambers, uses the A131 in the location of the proposed site access. This service operates once per day, on weekdays only, in each direction, running early in the morning from Braintree to Sudbury (arriving before 07:00) and then making the return journey from Sudbury to Braintree in the early evening (arriving at 17:45). The nearest stops for this service to the proposed site access are in Bulmer Tye (approximately 2km to the north) and Little Maplestead (over 3km to the south) and there is no pedestrian provision along the A131 to reach them from the proposed site access.

3.3.2 The F315 bus service operated by Arrow Taxis also runs between Sudbury and Halstead six times per day Mondays to Saturdays but via a route through Wickham St. Paul, Gestingthorpe and Bulmer, so it does not pass the proposed site access on the A131. The service shares the same bus stops in Bulmer Tye as the 89X, approximately 2km from the site access to the north. To the south, the nearest stop is at Catley Cross, approximately 1.7km away. As with the other bus stops referenced, there is no pedestrian provision along the A131 to reach this stop from the proposed site access.

3.3.3 The nearest railway station (Bures) is over 6km from the site as the crow flies.

3.4 Highway Network

3.4.1 The A120, the A12 and the A14 are all part of the Strategic Road Network managed by National Highways and provide strategic connections to the rest of the east of England and beyond. The site is bounded to the east by the A131, which links Sudbury and Halstead to the A120 and A12 to the south. The remainder of the roads near to the site comprise of B-roads and lanes providing access to towns, villages and individual properties and farms.

4. Proposed GSP Substation

4.1 Introduction

4.1.1 Figure 2 of the Environmental Appraisal shows the site layout of the proposed GSP substation, as described in Section 2 of the Environmental Appraisal and Section 4 of the Planning Statement.

4.1.2 There is an existing 400kV overhead line passing through the site, which is owned and operated by National Grid. There is also an existing 132kV overhead line to the south of the proposed GSP substation, that is operated by the Distribution Network Operator (DNO) (UK Power Networks), who distributes electricity at lower voltages to industrial, commercial and domestic users.

4.2 Construction Design and Access

4.2.1 A permanent bellmouth junction would be constructed with the A131 to local highway authority standards. This will connect to a surfaced track and would provide access for the periodic maintenance activities at the proposed GSP substation.

4.3 Construction Vehicle Routing

4.3.1 Construction traffic will utilise the strategic road network (SRN). The SRN closest to the site include the A131, A120, A12 and the A14 and provide access both north and south.

4.4 Decommissioning and Operation

4.4.1 During operation there is likely to be limited impact on the transport network. It is expected that there will be around one vehicle per month to complete maintenance checks.

4.4.2 There are no plans to decommission the proposed GSP substation. However, in such a scenario decommissioning would involve removal of the above ground features using similar working methods to those outlined during construction. Foundations within the proposed GSP substation area would be excavated to approximately 1.5m below ground level, and the ground level restored. Any temporary access tracks and working areas required for decommissioning would be removed and the site reinstated.

4.4.3 It is likely that any decommissioning of the proposed GSP substation would be beyond 2064, at least 40 years after the start of operation. At the time that decommissioning would take place, the regulatory framework, good industry practices and the future baseline could have altered. National Grid would consider and implement an appropriate decommissioning strategy taking account of good industry practice, its obligations to landowners under the relevant agreements and all relevant statutory requirements. In the event that the proposed GSP substation is to be decommissioned after the wider reinforcement project is operational, discussions would also be held with the DNO to agree alternative requirements for providing power to local communities and businesses.

4.5 Programme

4.5.1 Subject to receiving planning consent, it is anticipated that construction would begin in early 2023 and that there would be an approximately 14 month period between commencement of construction and the start of operation in early 2024.

4.5.2 Construction activity will begin with site preparation including setting up the temporary accommodation, parking and laydown area. The permanent perimeter fencing will be completed early in the construction programme. The permanent access road will be installed to connect the proposed GSP substation to the existing road network and will be designed to highways standards.

5. Trip Generation and Transport Impacts

5.1 Construction Assessment

5.1.1 Roads that may be affected during construction works for the proposed GSP substation are expected to be located within the area bounded by the A120 (Braintree to Marks Tey), the A12 (Marks Tey to Copdock) and the A131 (Sudbury to Braintree).

5.1.2 The construction of the proposed GSP substation would require the delivery of materials, plant and equipment. This includes Abnormal Indivisible Loads (AIL) movements for the delivery of the super grid transformer(s) to the site.

5.1.3 Estimated total monthly construction vehicle numbers based on the peak month (to ensure a worst-case scenario) have been converted into average daily construction and staff vehicles. Construction traffic vehicle numbers are expected to be low, with a one-way daily average of 10 construction vehicles (one heavy goods vehicle (HGV)) per day (i.e. 10 inbound and 10 outbound). The daily workforce is expected to be fewer than 20 workers. A worst-case assumption that each worker drives their own car to and from the site would consequently give a daily total of less than 30 inbound and 30 outbound vehicles per day.

5.1.4 To date, the Covid-19 pandemic has prevented collection of up to date baseline traffic data. Due to changes in traffic patterns, it is anticipated that any data collected within the past two years would be unlikely to provide an accurate reflection of the baseline conditions within the area. In lieu of any 2021 highways traffic data, twelve hour, 2013 traffic counts have been growthed to 2021 levels using TEMPro growth factors for Braintree, Babergh and Mid Suffolk.

5.1.5 Table 2 shows the predicted impact of construction traffic on the A131 for a 12-hour weekday, based on the assumptions above. As shown, this would be less than 1% of baseline A131 traffic flow. Furthermore, construction vehicle timings are unlikely to follow normal traffic patterns, as peak hours are usually avoided. Weekday construction worker trips are also likely to be outside conventional network peaks (08:00 to 09:00 and 17:00 to 18:00) as Core Working Hours are assumed to be 07:00 to 19:00, meaning that many trips to and from site will be made before 07:00 or after 19:00.

Table 2. A131 Traffic Flows

2013 A131 Baseline 12-hour flows (two-way traffic)	2021 A131 Baseline 12-hour flows (two-way traffic)	Daily Average Construction Traffic (two-way traffic)	Impact on A131 (%)
5,712	6,248	60	0.96

5.1.6 This means that construction traffic numbers, including those associated with worker numbers is low with less than a 1% impact on the A131.

5.1.7 There are no PRoW affected by the proposed GSP substation and no closures or diversions would be required.

5.2 Operational Assessment

5.2.1 There are no changes anticipated to the transport network or PRoW during operation. The proposed GSP substation would be unmanned during operation. Therefore, operational traffic movements would be very low, anticipated as one Light Goods Vehicle (LGV) trip per month for site maintenance. Effects during the operational phase have therefore not been assessed any further.

5.3 Decommissioning

5.3.1 There are no plans to decommission the proposed GSP. It is likely that any decommissioning of the proposed GSP substation would be beyond 2064, at least 40 years after the start of operation.

5.3.2 In any scenario that involves decommissioning of the proposed GSP substation, a written scheme of decommissioning would be submitted for approval by Braintree District Council at least six months prior to any decommissioning works. The decommissioning works would follow National Grid processes at the time for assessing and avoiding or reducing any transport and environmental impacts and risks.

5.3.3 Decommissioning is unlikely to have a major impact on the transport network.

5.4 Access

5.4.1 A permanent access road with a new bellmouth junction would be constructed from the A131. This would be designed to highways standards and be subject to a Road Safety Audit.

6. Measures to Avoid or Reduce Impacts

6.1 Introduction

6.1.1 Good practice measures that would avoid and/or reduce traffic and transport impacts during construction are set out in Annex 1 (CoCP) of Appendix 1 (Construction Environmental Management Plan (CEMP)) of the Environmental Appraisal. This includes plant and vehicles conforming to applicable standards (commitment GG12) and washdown of vehicles (commitments GG16 and GG17).

6.1.2 Section 10 of Appendix 1 (CEMP) of the Environmental Appraisal also explains measures associated with construction traffic using the local road network, traffic management during construction of the proposed bellmouth and that an Abnormal Indivisible Load (AIL) Access Study is being undertaken to assess the suitability of the road network for the vehicles delivering the SGTs.

6.2 Vehicle Use

6.2.1 The outputs of the AIL study, including any alterations required to the road network and the timing of the AIL movements, will be agreed with relevant highway authorities prior to construction. The use of AILs e.g. for delivery of the super grid transformers, will be undertaken in accordance with UK Government guidance transporting abnormal loads (UK Government, 2022).

6.2.2 AILs will follow the routing that will be agreed with National Highways and Essex County Council. The relevant highway authorities and police will be notified, and appropriate forms completed for AIL routing. This will be completed through the Electronic Service Delivery for Abnormal Loads (ESDAL) system. Notice to the police will also be required in certain circumstances. Full details for all notice periods are set out in the Special types enforcement guide (Driver and Vehicle Standards Agency, 2018).

6.2.3 HGVs and light goods vehicles will also be used during construction. HGV movements will normally take place during the Core Working Hours (07.00 to 19.00 Mondays to

Fridays and 08.00 to 17.00 on Saturday, Sundays and Bank Holidays). Where practicable, deliveries of construction materials will be timed to fall outside of traditional peak traffic periods (i.e. 08:00 to 09:00 and 17:00 to 18:00 Monday to Friday) or as otherwise set out as part of a Permit Scheme. Vehicles finishing at the end of a working day shall be permitted to leave site (i.e. a one-way movement out of the access point to the Local Road Network (LRN)).

6.2.4 In accordance with commitment GG12 of the CoCP, plant and construction vehicles will conform to relevant applicable standards for the vehicle type as follows:

- Euro 4 (nitrogen oxides (NOx)) for petrol cars, vans and minibuses;
- Euro 6 (NOx and particulate matter (PM)) for diesel cars, vans and minibuses; and
- Euro VI (NOx and PM) for lorries, buses, coaches and HGVs (excluding specialist abnormal indivisible loads).

6.2.5 Construction vehicles will be correctly maintained and operated in accordance with manufacturer's recommendations and in a responsible manner. All plant and construction vehicles will be required to switch off their engines when not in use and when it is safe to do so.

6.3 Contingency Routes

6.3.1 There may be exceptional circumstances when traffic movements are temporarily compromised, which will impact on construction vehicles being able to use the agreed construction traffic routes and access point. These exceptional circumstances are defined as one or more of the following:

- a traffic or other similar incident on the highway network that disrupts the normal operation of the highway network or results in the closure of the highway network;
- a breakdown of a HGV on route to the authorised development;
- work requested to be completed out of hours by the local highway authority/ Network Rail e.g. scaffold erection; or
- emergency health and safety requirement (incident).

6.3.2 In the event of any incident occurring that impacts on the safe and efficient operation of the road network, contingency routes will be provided by pre-established traffic diversions and diversions as set out by the relevant highway authorities.

6.3.3 Further to this, the contractor will regularly monitor the website https://one.network/ and liaise directly with National Highways and/or the local highway authorities to establish where predefined routes may be temporarily disrupted by other works or events and seek to establish alternative routes.

6.4 Construction Route Signage

6.4.1 All signage for the site will comply with relevant standards including Traffic Safety Measures and Signs for Road Works and Temporary Situations Chapter 8 (Department for Transport, 2009).

6.4.2 The following signage is proposed:

- Access Route and Point Signs: Temporary signage will be erected along construction traffic routes on the LRN to provide access (directional) routeing information. This temporary signage will also be provided in the vicinity of the proposed bellmouth on the A131 and also will provide warning to other road users of the likely presence of construction vehicles.

- Temporary Diversion Signs: In the event that any diversions of traffic along the construction traffic routes are required, temporary signage will be installed by National Grid or the relevant highway authority or both in accordance with relevant signage design guidance as is standard.

6.4.3 Signage will be weighted to help it stay in place and the contractor will undertake regular checks to report any defects with signage.

6.5 Access Points

6.5.1 Traffic management may be required during the construction of the proposed bellmouth at the A131 for safety of road users. The proposed traffic management measures are likely to be in place for a short period (less than two weeks) during construction. Traffic

management measures could include temporary traffic signals or manned stop and go boards. Specific locations, timings and the specific traffic management measures will be agreed with the local highways authorities as part of a Permit Scheme.

6.5.2 Measures such as 'bellmouth' construction and temporary construction matting or temporary hardstanding construction will be used to protect verges and provide a sound foundation for the safe passage of vehicles. Security fencing will be installed around the roadside access areas along with signage restricting access to construction traffic and construction teams only.

6.6 Vehicle Hygiene

6.6.1 In accordance with commitment GG17, wheel washing will be provided at the access point. An adequate supply of water will be made available at all times.

6.6.2 All vehicles exiting the site will be checked and cleaned manually (or if it is deemed necessary will pass over a wheel cleaning facility) prior to using the public highway. This will remove debris from vehicles ahead of joining the LRN. Road sweepers will be deployed on public roads where necessary to prevent excessive dust or mud deposits (GG17). Pressure washers could be used, dependent on the ground conditions and whether there is potential to transport mud or dust onto the road.

6.7 Car Parking Control

6.7.1 The site compound, located at the proposed GSP substation site, will contain appropriate parking spaces for the workforce. Vehicles authorised to park will be given a parking permit and visitors will be booked in and then directed to available parking spaces. Car sharing and the use of public transport will be promoted to reduce the number of vehicles.

6.7.2 Car park management will be undertaken and monitored in order to control onsite parking and that where limited parking is provided it is used by those it is intended for, as opposed to those who should be accessing the site via other methods.

7. Summary and Conclusions

7.1.1 Construction resulting from the proposed GSP substation would cause less than a 1% increase in traffic on the A131. This results from an estimated average daily increase of approximately 30 construction and staff vehicles during the peak month. Additional good practice measures (set out in Section 6) will help to avoid and/or reduce the impacts during construction.

7.1.2 Operational traffic will also be very low as the proposed GSP substation would be unmanned during operation.

References

Department for Transport. Traffic Signs Manual, Chapter 8. Traffic Safety Measures and Signs for Road Works and Temporary Situations, Part 1: Design. DfT, 2009.

Driver & Vehicle Standards Agency. Guidance – Special types enforcement guide. DVSA, 2018.

Highways Agency (1993) Design Manual for Roads and Bridges Volume 11, Section 3, Part 8 (Pedestrians, Cyclists, Equestrians and Community Effects).

Highways England, Transport Scotland, Welsh Government and Department for Infrastructure (2020e) Design Manual for Roads and Bridges LA 112 Population and human health.

Ministry of Housing, Communities and Local Government (2014) Travel Plans, Transport Assessments and Statements

UK Government (2022). Guidance – Transporting Abnormal Loads. Accessed March 2022, https://www.gov.uk/esdal-and-abnormal-loads

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com