



NORTHCONNECT

CONNECTING RENEWABLES

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HVDC Cable Infrastructure: UK Transport Statement

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1. INTRODUCTION

The purpose of this statement is to summarise the impacts on traffic and transportation of the proposed HVDC cable installation from its landfall (412095mE, 840000mN) to its point of entry to the previously consented converter site at Fourfields (411730mE, 841086mN).

A new temporary road will be required from the A90 to provide construction access to the area south-east of the trunk road. Construction access to the area north-west of the trunk road will be via the Fourfields converter station site. Construction traffic associated with the onshore construction sites at Fourfields has already been considered as part of the Converter Station and HVAC Environmental Statement and as such will not be reconsidered here.

The vehicle movements associated with the HVDC cable installation that have not already been considered are:

- Construction staff travelling to/from the work site to the south-east of the A90;
- Mobilisation and site establishment to the south-east of the A90, including the delivery of accommodation and welfare facilities;
- Delivery of construction equipment to the south-east of the A90 including drilling equipment to the HDD sites (the landfall drill site and the Road Crossing drill site);
- Delivery of materials to the south-east of the A90, including cable, drilling materials and construction materials for the temporary road, temporary compounds and cable installation;
- Limit access to the site using the existing access to Mains of Longhaven Farm (north-west from A90). This will principally be light vehicles though occasional use for delivery of plant or materials may take place;
- Removal of material/waste from the drill sites; and
- Demobilisation and removal of site accommodation, welfare facilities and construction equipment.

There will be no requirement for regular maintenance access to the cable following construction. Therefore, there will be no impact on traffic and transportation after the construction phase.

This statement will comprise the following sections:

- An assessment of existing trunk road traffic;
- An assessment of vehicle movements associated with the construction activities identified above;
- A review of the design of the new access from the A90; and
- Proposed mitigation measures.

2. EXISTING TRUNK ROAD TRAFFIC

The A90 is the major north to south road in eastern Scotland, running from Edinburgh to Perth in the form of the M90, then as the A90 to Dundee, through Aberdeen, around Peterhead to Fraserburgh. All deliveries and personnel traveling to the site from the north or south will utilise the A90. In addition the A982 into Peterhead and passing the harbour, may be utilised to transport materials which are delivered by sea, and potentially personnel from the town.

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In order to establish the baseline situation, traffic survey data was sought along the road network in the vicinity of the development site. Average Daily Traffic Flows (ADTFs) for 2000 to 2016 have been obtained from the Department for Transport (2018) for the A90 at two locations in the vicinity of the site. This data provides a daily average flow of the number of vehicles passing a point in the road network each day averaged over a four-week (Monday to Saturday) period in a neutral month.

Aberdeenshire Council has two existing permanent traffic count points nearby, providing daily traffic flow data.

- Count Site 1 - (CP 20803) is located on the A90 between the junction with the A975 (just south of Longhaven) and the junction with the A982 (into Peterhead); passing the proposed access point to the Fourfields site and the proposed new access to the south-east of the A90. Traffic is counted over a length of 6.2km; and
- Count Site 2 - (CP 80574) is located north of the proposed site, on the A982. This is the route in and out of Peterhead, to access the port. Traffic is counted over a length of 2.4km.

Considering the last 5 years of available data (2012-2016), traffic levels at Count Site 1 have increased year on year over this period, primarily due to a 25% increase in light goods vehicles. Heavy goods vehicle (HGV) movements have increased by 3% over the same period while car and taxi numbers have remained steady.

At Count Site 2 the traffic numbers have increase year on year from 2012-2016, primarily due to an increase in car and taxis numbers. LGV and HGV movements have reduced over the same time period. The Table 2.1 provides the average daily travel numbers for the last five years of available data.

No pedal cycles have been counted at Count Site 1 on the A90 since 2004 and daily numbers at Count Site 2 averaged 24 a day from 2012-2016. The A90 is a busy, fast road so it is not surprising that cyclists choose to avoid it. The Formartine & Buchan Way heads east from Peterhead to Maud with the option to head north to Fraserburgh or south to Ellon and Dyce [Aberdeenshire Council, 2018]. These routes are much less direct than the A90 but offer a safer, more relaxing cycling option

Table 2.1: Average Daily Travel Numbers for (2012-2016) [Department for Transport, 2018]

Survey Location	Motor Cycles	Cars & Taxis	Buses & Coaches	Light Goods Vehicles	Heavy Goods Vehicles (HGV)	Total Traffic
Count Site 1 - A90	10	6444	141	1248	798	8642
Count Site 2 - A982	42	8270	103	1562	451	10427

3. CONSTRUCTION TRAFFIC

The Institute of Environmental Management and Assessment (IEMA) publication Guidance Notes No. 1: Guidelines for the Environmental Assessment of Road Traffic [IEMA, 1993] sets out a methodology for assessing traffic and transport related environmental effects. The IEMA guidelines identify the following rules by which to undertake an assessment of potentially significant traffic and transport related environmental effects:

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- Rule 1: Include roads where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%).
- Rule 2: Include any specifically sensitive areas where traffic flows are predicted to increase by 10% or more [IEMA, 1993].

The estimated average numbers of vehicle movements to the construction area to the south-east of the A90 are as follows:

- Personnel movements - 24 light vehicle movements per day for the duration of construction;
- Road construction - 20 heavy vehicle movements per day for a period of approximately 6 weeks (delivery of construction materials and equipment);
- HDD site establishment - 10 heavy vehicle and 4 light vehicle movements per day for a period of approximately 4 weeks (delivery of site accommodation and drilling equipment); and
- HDD operations - 6 heavy vehicle and 6 light vehicle movements per day for a period of approximately 26 weeks (removal of material/waste and equipment deliveries).

Therefore, the worst case is during road construction with a total of 44 vehicle movements per day, including 20 heavy vehicle movements, for an estimated duration of six weeks. This represents a 0.5% increase in overall traffic on the A90 and a 2.5% increase in HGV movements.

The estimated average numbers of vehicle movements to the construction area to the north-west of the A90 (using the Mains of Longhaven access) are as follows:

- Personnel movements - 4 light vehicle movements per day for the duration of construction; and
- Crossing of A90 by HDD - site establishment and construction - 4 heavy vehicle per week for a period of approximately 2 weeks (delivery of site accommodation and drilling equipment).

The use of the Main of Longhaven access will therefore not have any measurable impact on overall traffic on the A90.

The worst case increase in traffic flow to the Fourfields site was estimated to be approximately 500 movements a day (up to 400 cars, 30 vans and 80 HGVs). It is unlikely that the worst case traffic numbers would occur on both parts of the construction site at the same time. However, this has been assumed for the purpose of assessment. The worst case in-combination effect would therefore be approximately 550 movements (up to 460 cars and vans and 100 HGVs), which is a 6.4% increase in all movements and a 12.5% increase in HGV movements. The in-combination worse case effect does not breach either of the IEMA rules and, as such, a significant effect is not predicted.

As noted in the introduction, a temporary access to the south-east of the A90 has been designed to manage the size and volume of vehicles predicted.

4. ACCESS DESIGN

An existing track runs south-east from the A90 to the landfall drill site. This track is considered unsuitable for construction traffic for the following reasons:

- The condition of the track makes it unsuitable for heavy vehicles. The track, and its junction with the A90, would require significant upgrading to bring it up to the required standard;

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- Any upgrading work would result in significant disturbance to the embankments of the dismantled railway which runs south-east of, and parallel to, the A90 Trunk Road. The proposed position of the new temporary access avoids this issue; and
- It joins the A90 directly across from the access to Longhaven Mains. Clause 2.4 DMRB Volume 6 Section 2 Part 7 TD 41/95 states that it is advisable to avoid this situation.

Therefore, it is considered that a new access track is required.

5. STAKEHOLDER CONSULTATION

A number of stakeholders have been consulted regarding the traffic and transport issues associated with the NorthConnect project. This can be summarised as follows:

- Peterhead Port Authority - berthing and lifting facilities, access to/from the port;
- Aberdeenshire Council and BEAR North East (via Transport Scotland) - approval in principle of transport routes to/from the port for normal and abnormal heavy loads; identification of existing highways structures on the approved routes; and
- Transport Scotland - design of new and upgraded accesses from the A90.

With regard to the last point above, consultation has taken place with Transport Scotland Development Management regarding the design of the new access. See the Appendix 1, e-mail of 15 February 2018. Their guidance is summarised as follows:

- The initial length of access road should have a bituminous surface. The length of the surfaced section will depend on the length of the typical vehicle using the access and will include the access bellmouth. The layout of the new access should be in accordance with Layout 6 of DMRB Volume 6 Section 2 Part 7 TD 41/95.
- The remainder of the access road can be finished with crushed stone. The provision of wheel washing would help to minimise the transfer of mud to the trunk road.
- Vehicle tracking is required to demonstrate that vehicles can turn in and out of the access without crossing onto the opposite side of the trunk road.
- A Traffic Management Plan is required which considers numbers, routes and timing of vehicle movements. Carrying out these movements on an off-peak and left in / left out basis will help.
- The access track will require a dwell area with a gradient of no more than 2% on the approach to the trunk road. The dwell area should be 15m long but may be relaxed depending on circumstances and should at least match the length of the surfaced area.
- Visibility needs to be checked in detail.

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6. DESIGN VEHICLES

The design has been based on an articulated HGV. Details are presented on the attached Drg No. NCGEN-NCT-Z-YX-0004-01 - HGV Swept Paths and are reproduced below:

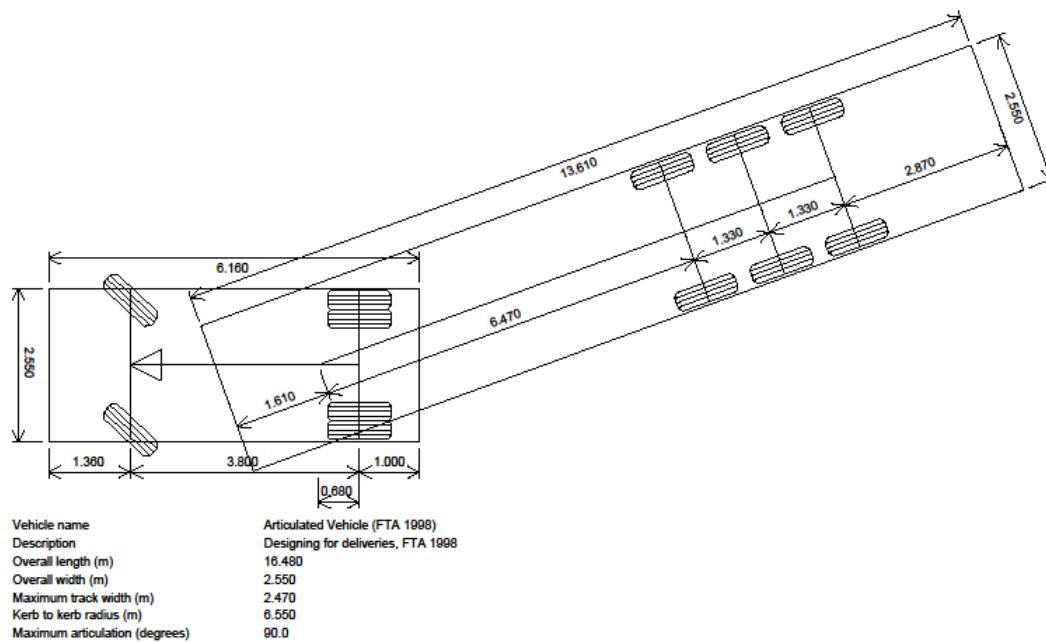


Figure 6.1: FTA Design Articulated Vehicle (Freight Transport Association, 1998)

7. DESIGN STANDARDS

In accordance with the guidance received from Transport Scotland Development Management (Appendix 1), the layout of the new access is in accordance with Layout 6 of DMRB Volume 6 Section 2 Part 7 TD 41/95 (The Highways Agency, 1995). Pavement design for the surfaced section of the track will be in accordance with DMRB Volume 7 Section 2 Part 3 HD26/06 (The Highways Agency, 2006).

With regard to the unsurfaced section of track, a floating construction is proposed as shown on the attached Drawing No. NCGEN-NCT-Z-YX-0002-01 - Site Plan and Road Details. This has the advantage of minimising ground disturbance and the associated risk of silt pollution. Note that the native soil is a heavy clay which performs poorly in wet conditions.

With regard to the construction of the new access, all works will be carried out in accordance with Safety at Street Works and Road Works: A Code of Practice [Department for Transport, 2013]. It will be necessary to employ traffic control on the A90 during construction of the surfaced section. The Code of Practice states that, where the length of the works is less than 100m (as in this case), Stop/Go boards are an acceptable for of active control for traffic flows of up to 1400 vehicles per hour (two-way flow).

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8. MITIGATION MEASURES

NorthConnect are producing an Overarching Construction Environmental Management Plan (CEMP), which will include elements such as a Traffic Management Plan, Overarching Site Waste Management Plan, Incident Response and Reporting. Each Contractor is expected to work to the Overarching CEMP and will be expected to produce a Contract specific CEMP in line with the Overarching CEMP for their elements of the work.

The HVDC Cable Contractor will follow the Traffic Management Plan, produced for the UK construction Works. Specific mitigation measures include:

- Vehicle numbers shall be minimised where practicable. Staff parking shall be on the converter station site, such that one or two vehicles can be utilised to transfer workers to the cable installation areas. Parking at the HDD compound will be limited to minimise disturbance to terrestrial birds and seabirds.
- Access to areas to the south-east of the A90 will be from the north only via the new access. Egress will be to the south only. Crossing directly from one side to the other is prohibited. This is to minimise impacts to traffic travelling on the A90 and to minimise risk of accidents occurring.
- With regard to the transfer of mud to the trunk road, the new access and work areas will be constructed from clean stone. There will be few circumstances in which road-going construction vehicles are running on unimproved ground and vehicles returning to the A90 will travel over 300m on clean stone and bituminous surfaces. This in itself will restrict the transfer of mud and rumble strips will be provided on the new road give enhanced protection.

The Traffic Management Plan will include:

- Traffic management measures including accommodation works to manage construction traffic;
- Measures to minimise traffic impacts on existing road users;
- Details of temporary signage; and
- Details of construction vehicle routing.

9. REFERENCES

- Aberdeenshire Council (2018). Formatine and Buchan Way, Route Cards, <https://www.aberdeenshire.gov.uk/paths-and-outdoor-access/long-distance-routes/formartine-and-buchan-way-route-cards/>
- Department for Transport (2013). Safety at Street Works and Road Works, A Code of Practice. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/321056/safety-at-streetworks.pdf
- Department for Transport (2018). Download Traffic Datasets Aberdeenshire <http://www.dft.gov.uk/traffic-counts/download.php>
- Freight Transport Association (1998). FTA Design Vehicles
- IEMA (1993). Guidelines for the Environmental Assessment of Road Traffic
- The Highways Agency (1995). Design Manual for Roads and Bridges, Volume 6: Road Geometry, Section 2 Junctions, Part 7, Vehicular Access to All-Purpose Trunk Roads, TD41/95 <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol6/section2/td4195.pdf>
- The Highways Agency (1995). Design Manual for Roads and Bridges, Volume 7: Pavement Design and Maintenance, Section 2: Pavement Design and Construction, Part 3 Pavement Design HD26/06 <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol7/section2/hd2606.pdf>

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APPENDIX 1 : EMAIL CORRESPONDENCE WITH TRANSPORT SCOTLAND

From: Ken.Aitken@transport.gov.scot [mailto:Ken.Aitken@transport.gov.scot]

Sent: 15 February, 2018 1:48 PM

To: Murray Richardson <murray.richardson@allengordon.co.uk>

Cc: HMoore@bearsotland.co.uk; Denise.Angus@transport.gov.scot

Subject: A90 Temporary Access South of Boddam - NorthConnect Project

Hi Murray

As you stated planning would still be required for this and we are happy to comment on your proposals to help speed up the planning process.

Construction of the access track with sub base and the provision of wheel washing would help minimising the transfer of mud to the trunk road but we would still require that the initial length of the access track would be completed with a bituminous surface. The length of this bituminous surface would depend of the length of the typical vehicle which would be using the access and as you stated would include the bell mouth and the "layby". This "layby" which you have indicated is a proposed slip road for large vehicles, does not comply with DMRB and the correct arrangement is layout 6 in DMRB Volume 6 Section 2 Part 7 TD41/95 (link below).

<http://www.standardsforhighways.co.uk/ha/standards/dmr/vol6/section2/td4195.pdf>

I would also like to see a vehicle track of the two potential access locations to ensure that the typical vehicle can make the manoeuvre in and out without crossing on to the opposite side of the trunk road.

The Construction Management Plan should consider the number, route and timing of the vehicles carrying the spoil off site. Again carrying out these movements on an off peak and left in / left out basis will also help. Routeing to and from the site access to the disposal site should also be included.

The visibility would require to be checked in more detail and it would appear to me that it may be easier to achieve the required visibility at the alternative access rather than the proposed one as it does not encroach into the adjacent fields. This of course would not be such an issue if you have control over the adjacent fields and can clear any potential obstructions. The ability to achieve the required visibility and the swept paths will, of course, determine which of the two access points would be the most suitable.

It also appears that the fields below the road are lower than the trunk road and the end of the access track would require to have a dwell area with a gradient of no more that 2% on the approach to the trunk road. The extent of this dwell area should be 15 metres but may be relaxed depending upon circumstances and it should at least match the length of the surfaced area.

Once you have firmed up your proposals and prepared more detailed drawings I would be pleased to review these again.

If you have any questions please get back to me

Regards

Ken

Ken Aitken

Development Management

Network Operations

Trunk Road and Bus Operations

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