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Dear Alasdair MacMillan,

### **Ofgem Connections End- to- End Review Consultation**

National Highways is a Government-owned company responsible for operating, maintaining, and improving England's Strategic Road Network (SRN). We are the strategic highway authority appointed under the [Infrastructure Act \(2015\)](#)<sup>1</sup> and operate under a license issued by the Secretary of State for Transport.

As a company committed to achieving net zero, in 2021 we published our [Net Zero Highways 2030 / 2040 / 2050 plan](#)<sup>2</sup> which is a programme putting roads at the heart of Britain's net zero future. This, together with our [Environmental Sustainability Strategy](#)<sup>3</sup> communicates our 2050 vision to provide a road network that supports the country's transport needs but also protects and strengthens the natural environment and enhances community wellbeing.

National Highways welcomes the opportunity to respond to the Connections End to End Review Consultation and is supportive of its objectives to review the connections process through reviewing the existing connection issues. This is with a view to improving the connections queue, end-to-end customer journey and ensuring that regulations match customer expectations. These improvements will work in support of the ongoing electrification of heat, transport and industry to meet government-led decarbonisation targets. In addition to this, National Highways acts as a statutory consultee on wider planning matters, and therefore we have informed views and a particular interest in this area.

In the UK, domestic transport is the largest carbon emitting sector, and of this sector, road transport is the largest contributor. To reduce carbon emissions in this area, the provision of electric vehicle charging on the Strategic Road Network (SRN) is vital to change consumer behaviours and enable a national transition towards zero emissions vehicles

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<sup>1</sup> Highways England: licence ([publishing.service.gov.uk](https://publishing.service.gov.uk))

<sup>2</sup> <https://nationalhighways.co.uk/netzerohighways/>

<sup>3</sup> <https://nationalhighways.co.uk/our-work/environment/environmental-sustainability-strategy/>

(which include Electric Vehicles (EVs)). To support this, a review of the end-to-end connections process and connections queue should consider the importance of decarbonising travel to meet central government and National Highways' net zero goals.

National Highways is a key stakeholder in the net zero transition and are experiencing delays in the provision of connections in our areas of interest - EV charging and projects on the SRN. A review of the connections process is key to mitigating this risk and to ensuring that connection capacity and delivery is allocated more effectively, as this avoids the negative impact on project timescales, excess costs and significant reputational damage.

We have the appropriate expertise and insight to support this review of the connections process and have based our response on our work with Distribution Network Operators (DNOs), our interactions as the owner of the SRN, with projects requiring new and updated connections and facing potential delays in lead times. We can also draw on our insight from our role working with OZEV to deliver the Rapid Charging Fund.

## Connections End- to- End Review Consultation- National Highways Response

National Highways is keen to work with Ofgem and other key stakeholders to ensure the success of the outcomes of the Connections End to End Review. We believe that a review of the process should take into consideration the importance of decarbonising transport and the necessity of power dedicated to electric vehicle (EV) charging to support this. The review should also consider the number of projects on the SRN that suffer delays as a result of insufficient provision of electrical power and the wider ramifications that this causes, such as delay to economic benefits and negative impacts on road safety.

We can provide data and insights from our work with DNOs to improve the transparency of connections data with respect to EV charging on the SRN. We believe this could be incorporated into a wider review of the connections process.

In this regard, we would like to offer input on the following themes of particular interest:

- Visibility and accuracy of connections data and network capacity
- Improved standards of service across the connections customer journey
- Requirement on networks to meet connection dates in connection agreements
- Quality and reliability of the connection offers and associated documentation
- Ambition of connection offers
- Minor connections
- Provisions and guidance for determinations
- RIIO T3

These themes and subsequent improvements are key to the delivery of EV charging on the SRN, reducing carbon emissions from road travel as well as addressing the risk of

long lead times for SRN-based projects due to delays in securing capacity. However, in tandem with connections reform, the day-to-day requirements for electricity network maintenance and operations and the timely delivery of statutory undertaker diversions need to continue to be prioritised. This will enable major projects by National Highways or external third parties to be delivered effectively and to budget.

Visibility and accuracy of connections data and network capacity enables more informed planning to take place when completing major projects (e.g. assessing the need for EV charging). Requirements on distribution networks to provide quality connection offers and meet agreed connection dates will enable projects to run to schedule more efficiently and is vital for the success of time-critical net zero targets.

In summary, we believe that a review of connections process and connections queue should consider the importance of a shift to electric vehicle charging and the electricity needs associated with this, as well as the importance of effective distribution of power to new projects taking place on the SRN.

### Visibility and accuracy of connections data and network capacity

*Problem Statement - Good quality, standardised, usable, network capacity data is not uniformly made readily and transparently available to connecting customers in a manner that is both timely and useful. This prevents customers from identifying optimal grid entry points for their projects.*

National Highways is considering this consultation point from a demand perspective rather than a generation perspective, so do not have a view on identifying optimal grid entry points.

However, in our experience working with DNOs and Motorway Service Area Operators (MSAOs), we know that better quality information upfront allows for increased investment in charging infrastructure. To improve the visibility and quality of this information, quality sources already available from DNOs should be more readily available than at present.

A lack of information regarding available capacity at the early project stage can represent a key blocker to National Highways' schemes. This creates uncertainty where our project leads are ready to design and create a scope for projects based upon capacity available, but this information is not always readily available upfront. More capacity information available at the early project stages as opposed to it becoming available after handing over a completed scheme design would be advantageous from a customer perspective. There are also different levels of engagement and detail provided by each DNO in the early planning stages.

More transparent and readily available information would also assist in the construction management decision making process with regards to the approach to zero emission construction. As there is more than one option for zero emission plant and temporary

accommodation on site, having a clearer picture on if and when grid connections will be available will assist in planning which plant is used (for example, hydrogen or battery delivery if the grid connection is not viable).

To conclude, a standardisation of information across DNOs, with regards to quantity and quality of information provided, would ensure consistency. To improve further, elaborating on the information provided to customers on network status, realistic lead times and associated costs should be considered as a useful customer enhancement. Where energisation lead times are not acceptable for the customer, information regarding flexible and non-firm options should be readily provided.

### Improved standards of service across the connections customer journey

*Problem statement - Limited standards of service requirements apply to the DNOs, TOs and the NESO during certain phases of the connecting customer journey. Standard of service requirements are generally focussed within the application and offer creation. For the stages of the customer journey where standards do apply, such as at the offer creation stage, alignment and duplication checks across the regulatory framework are required to ensure it works efficiently and harmoniously.*

There is evidence that greater standardisation across DNOs (for example in terms of connection offers and validity periods), will support the planning process for connections. In some instances, the differences in decision-making timescales for DNOs can affect governance and processes across the board, risking private investment.

The standardisation of service requirements applying to DNOs enables an enhanced planning process for infrastructure projects where these are subject to constraints because of delays to secure capacity availability.

### Requirements on networks to meet connection dates in connection agreements

*Problem statement - There is limited scope for network companies to be held to account against timeframes for delivery of individual connections, and the products and services required to facilitate them, once a connection agreement is in place. This could include connection-specific network build as well as wider reinforcement works. This can result in connecting customers experiencing connection dates later than agreed in their connection contract, and in some case, can render their project(s) unviable.*

Given that uncertainty around connection dates risks investment delay, policy requirements on DNOs to meet connection dates in agreements would minimise this risk. This would therefore enable more efficient provision of strategic charging infrastructure on the SRN due to a reduction to delays to works from the late securing of new capacity.

In addition to this, greater certainty on and commitment to connection dates is important to the decision making for major projects and forward planning across the SRN.

To create more certainty on connection dates, better upfront data and assessment of the network is needed in the first instance, as well as setting up relevant milestones for the DNOs to abide by. This raises awareness of potential risks associated with the project so that these can be mitigated where possible.

However, the management of this needs to be carefully controlled to avoid the risk of DNOs supplying artificially long lead times to avoid penalties. Overall, an improved dialogue with customers is essential.

A better balance in the rights and obligations of the DNOs and the customer is also required. Clearer policies and regulatory performance monitoring such as league tables and regulatory penalties should be implemented to ensure DNOs are held accountable for maintaining timelines and obligations. Further to this, contractual remedies such as liquidation damages in response to raising the unbalanced contractual relationship with no recourse may need to be implemented.

## Quality and reliability of the connection offers and associated documentation

*Problem Statement - The regulatory framework generally focusses on the timeliness within which offers must be provided by network companies and NESO but does not set out clear requirements on the quality<sup>4</sup> of the offer and the information provided.*

To improve the quality and reliability of connection offers and associated documentation, holding DNOs accountable to milestones and assessing risks and ensuring that these are then packaged up as part of connection offers is key. This would enable customers to manage associated risk and prevent subsequent risk to investment. More reliable connection offers and supporting documentation can also help create connection offers that are less subject to change, providing more certainty in outturn costs following the detailed design phase.

## Ambition of connection offers

*Problem Statement- We see a risk that, should requirements on DNOs, TOs and NESO to meet connection dates in connection agreements be strengthened (see Theme 3), network companies may be naturally incentivised to self-preserve by offering conservative connection dates.*

There is a need for regulatory incentive for network companies to invest ahead of need - a key bottleneck in the current connections process. That is to say that even with the

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<sup>4</sup> By quality we mean offers that are clear, transparent and understandable to the customer, and are as accurate and reflective of reality as possible at the time of provision in terms of dates offered, details of works required, reasons given for possible changes to the date that may occur post-agreement etc.

connection queue being improved, the necessary capacity still needs to be built, and network companies need a certain degree of certainty on investment recovery.

To achieve this, regulatory change is required, as network companies who are spending investor's money will only absorb a certain degree of risk. The consequence of this is that in the case of electric vehicle charging infrastructure, Charge Point Operators (CPOs) are building EV charge points faster than the network capacity can be built to energise them. Therefore, regulatory incentive for network companies is needed to encourage investment ahead of need.

Licence-based conditions (or service level agreements) on connection timings is also essential for connections required by National Highways for the development and maintenance of the SRN and the management of risk and investment including at Motorway Service Areas and depots.

## Minor connections

*Problem Statement- Connection requests at the lower voltages ('minor connections')<sup>37</sup> are increasing rapidly, with consumers adopting low-carbon technology as part of a Net Zero transition and to reduce their energy costs. These levels will continue to grow at pace as electrification demand increases.*

Connection customers and other network users must be able to connect promptly, without waiting for this capacity to come online, and with consistent and seamless processes across DNOs. However, technical and service standard issues are sometimes preventing minor connections customers from receiving their required connections in a timely manner.”

Minor connections will be becoming increasingly necessary at pace for National Highways' depots, outstations and project sites. Therefore, being able to connect promptly and with consistent processes across DNOs is vital. This is especially relevant for 'pop up' connections required for construction sites which are needed to meet our net zero commitments.

## Provisions and Guidance for Determinations

*Problem Statement- The connections determination process, which is designed to resolve disputes arising within the connections process, can be confusing, lengthy, and requires significant engagement and resource commitment from all parties involved.*

National Highways support having a robust connections determination process with greater clarity on resolving disputes. With greater clarity on resolving disputes, this will assist in managing risk going forward and will ensure that matters are resolved in a timely manner.



## RIIO T3

In terms of the RIIO-ET3 suggestions, whilst they all seem like useful incentives, Supergrid Transformer capacity is perhaps less useful for zero emissions sites, given that the connections required would be of a higher voltage to support tethered connections and charging for plant. However, in terms of EV charging across the network, where lower voltages are required, this metric may still be useful.

## To conclude

Once again, we would be happy to share insight on any of the aforementioned points and work alongside Ofgem to develop our important relationship given the increasingly close nature of the transport and energy sectors as they work to achieve decarbonisation and net zero. We would be happy to assist to ensure that the outcomes of the Connections End to End Review are a success.

Yours sincerely,



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cc:

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