



**Distribution licence holders**  
**Electricity supply licence holders**  
**Electricity consumers**  
**Related stakeholders**

*Promoting choice and  
value for all customers*

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19 August 2011

Dear Colleagues,

**Consultation on a proposed request for derogation under Standard Licence  
Condition 24 of the Electricity Distribution Licence**

**Introduction**

This is a consultation on a proposed request for derogation under Standard Licence Condition 24 (Distribution System planning standard and quality of performance reporting) (SLC24) of the Electricity Distribution Licence by Electricity North West Limited (Electricity North West) in relation to the submission of its Capacity to Customers project under the Low Carbon Networks (LCN) Fund. Responses are required by 30 September and should be sent to [neil.copeland@ofgem.gov.uk](mailto:neil.copeland@ofgem.gov.uk).

On 17 August, Electricity North West submitted a bid for funding under the Second Tier of the LCN Fund. Outline details of this project were set out in Electricity North West's Screening Submission<sup>1</sup>. The project is designed to explore the potential for using the network capacity headroom that is currently required to meet obligations under SLC24. The related design requirements are set out in Engineering Recommendation P2/6 ("ER P2/6").

Electricity North West's project envisages breaching the requirements of SLC24 but in a controlled way that will only affect those customers that have elected to have a managed connection. Electricity North West will seek a derogation under SLC24 if its project is awarded funding. The purpose of this consultation is to seek stakeholders' views on the proposed derogation request, in relation to Electricity North West's Capacity to Customers project, before a decision on funding is made and in advance of a formal derogation request from Electricity North West.

We are also aware that issues that are identical or similar to those raised by the Electricity North West project may apply to other LCN Fund projects. This consultation will also be helpful in considering these issues as and when they arise and may avoid the need for further consultation.

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<sup>1</sup> <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=113&refer=Networks/ElecDist/lcnf/stlcnf>

## **SLC24 and Engineering Recommendation P2/6**

Electricity generation, transmission, distribution and supply licensees are obliged to comply with certain technical codes and standards. Compliance with these technical codes and standards is in the interests of electricity consumers as a failure to comply could have a direct and adverse impact on the security and quality of electricity supplied, and may have health and safety implications.

However, there may be occasions when a licensee assesses that it is either not in a position to comply with a particular code or standard, or that the requirements placed upon it by a code or standard may result in an inefficient outcome either in the short or longer term. In these circumstances, a licensee may submit a request to Ofgem for derogation from the licence requirement to comply with a particular obligation in a code or standard.

One of these standards is ER P2/6. Electricity distribution licensees are obliged to comply with ER P2/6 under SLC24 and under the Distribution Code<sup>2</sup>. ER P2/6 sets out the performance requirements of a distribution system in respect of its ability to reliably supply the customers connected to it. It does this by specifying the maximum time allowed for customers' supplies to be restored in the event of unplanned and planned circuit outages. The maximum supply restoration time varies depending on the size of the demand group connected. So, for large demand groups, there should be no interruption to supplies for a single unplanned outage. In contrast, for the smallest demand groups, the supply restoration time is set at the repair time for the faulty equipment.

SLC24 does make provision for a distribution licensee to seek derogation from ER P2/6 in certain circumstances. Such derogations are only granted in exceptional circumstances and are usually related to events outside of the licensee's control; for example, planning processes that delay or prevent required network reinforcement. Derogation requests are considered in accordance with our published guidance document<sup>3</sup>.

### **Background to Electricity North West's proposed derogation ER P2/6 request**

On 20 April this year, Electricity North West submitted, for initial screening, a short form project summary for a Second Tier LCN Fund project. This can be found on our website [here](#). The project is called "Capacity to Customers". It is designed to explore the potential for achieving greater utilisation of distribution network assets.

As explained above, ER P2/6 specifies the supply restoration times in the event of unplanned outages. In order to meet the requirements of ER P2/6, licensees design their networks to have redundant capacity. This redundant capacity is generally only required in the event of planned or unplanned network outages. Electricity North West's proposed LCN Fund project is designed to explore whether better use could be made of this redundant or latent capacity.

As part of the initial screening process for Second Tier LCN Fund projects, we ask licensees to highlight any potential need for licence derogations relating to the project proposals. Electricity North West highlighted that they would need a derogation against its obligations under ER P2/6 and we decided that we would consult on the issues raised in the derogation if the full Second Tier submission for the project was made.

On 17 August, Electricity North West submitted the "Capacity to Customers" project as a full Second Tier submission triggering this consultation. We would like to stress that carrying out this consultation in no way indicates that the Authority will decide to grant funding to Electricity North West's project. The reason for carrying out the consultation at this stage is to allow the LCN Fund's Expert Panel and the Authority to consider the

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<sup>2</sup> <http://www.energynetworks.info/the-distribution-code/>

<sup>3</sup> "Guidance on licence derogation requests" – 19 January 2009

Capacity to Customers project with the benefit of the consultation responses on the proposed derogation.

### **Electricity North West's proposed derogation ER P2/6 request**

The idea that Electricity North West wants its Capacity to Customers project to trial is effectively the creation of a new class of demand connection; a managed (i.e. reducible or interruptible) connection. Electricity North West is of the view that the network supporting a demand of greater than 1MW is always, at least, duplicated in order to comply with ER P2/6. Electricity North West's project seeks to make use of this duplicated capacity. It will do this by offering new connection contracts to new and existing customers that have agreed to modify their usage of the network in the event of an unplanned outage. By providing such managed connections, Electricity North West would propose to connect load in excess of that permitted by ER P2/6 without having any material impact on those customers with existing standard connection arrangements.

Electricity North West's project is primarily focused on its HV (i.e. 11kV and 6.6kV) networks. Some 300,000 customers are currently connected in the area of the project. It proposes to operate nominated HV circuits in closed rather than traditional open rings. It also proposes to provide additional automatic reconfiguration of these rings so that more customer supplies can be automatically reconnected following a fault. It is recognised that by operating an HV ring closed rather than open, more customers will be initially disconnected in the event of a fault. However, the inclusion of sectioning and automatic switching will restore supplies to more customers after the fault (i.e. in less than three minutes) thus minimising the customer effects. Those customers that have agreed to a managed connection could be required to remain disconnected or reconnect at a reduced demand until the faulted network has been repaired or more likely until alternative supply arrangements are put in place.

It is recognised that by exceeding ER P2/6 limits on HV circuits, ER P2/6 compliance may also be breached at higher voltage levels. Electricity North West proposes to deploy control system algorithms to reconfigure the network automatically and activate load reduction to the managed customers so that all other customers are not affected for such fault conditions.

While there is a potential risk that new connections made under this project could also affect compliance with the SQSS<sup>4</sup>, Electricity North West will work with National Grid Electricity Transmission plc, one of the project partners, to manage the project so that this does not occur.

### **Ofgem's consideration of Electricity North West's proposed derogation request**

The fundamental issue underlying this proposed derogation request is that ER P2/6 does not explicitly address demand side management/response. The demand considered by ER P2/6 is referred to as "Group Demand". However, the definition of Group Demand<sup>5</sup> makes no reference to demand side management/response.

Group Demand is further discussed in the supporting document to ER P2/6, Engineering Technical Report (ETR) 130. This discussion relates to the impact that distributed generation has on Group Demand and recommends a way of dealing with this. ETR 130 introduces two additional terms; "Measured Demand"<sup>6</sup> and "Latent Demand"<sup>7</sup>. The

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<sup>4</sup> <http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/>

<sup>5</sup> The DNO's estimate of the maximum demand of the group being assessed for ER P2/6 compliance with appropriate allowance for diversity. The Group Demand at grid supply points must be consistent with the demand data submitted to a transmission company under the terms of the GB Grid Code.

<sup>6</sup> The summated demand measured at the normal (network) infeed points to the network for which Group Demand is being assessed.

<sup>7</sup> The demand that would appear as an increase in Measured Demand if the distributed generation within the network (for which the Group Demand is being assessed) were not producing any output.

definition of Measured Demand would appear to exclude demand that can be controlled and as Group Demand is stated to be the sum of Measured Demand and Latent Demand, it can be argued that ER P2/6 does not allow controllable demand to be excluded from the Group Demand. Electricity North West's proposal is effectively to allow Measured Demand to exclude the demand that customers make contractually available to them to be reduced/interrupted for agreed network contingencies. It would therefore seem appropriate for Electricity North West to seek a derogation should it proceed with its Capacity to Customers project.

The guidance on licence derogation requests sets out how we assess them and the criteria we apply in reaching a decision. It states that we will consider, amongst other things, the impact on consumers, competition, sustainable development, health and safety and other affected parties. Here we consider these issues based on information provided to us by Electricity North West.

### *Consumers*

We understand, as discussed above, that consumers within the project area may experience an increase in short duration interruptions. However, Electricity North West will select circuits for the project that have performed well historically (under the Interruption Incentive Scheme) and therefore any potential increase in short duration interruptions will not be significant and mitigated by the reduction in the length of the interruption due to the installation of the remote control and automation onto the circuit.

Electricity North West claims to have extensive experience in the application of these automation systems and is therefore confident that there will be no degradation in the level of security experienced by consumers. In the event of a failure of the automation systems, all supplies will be restored by manual switching. The restoration timescale will be typically that of an HV fault, currently about 50 minutes. It should be noted that Electricity North West is incentivised to minimise the customer disruption following a fault and this will continue to be the case for all nominated circuits.

No customers will see increased costs as a result of the project. Those new customers that accept a managed connection will see lower connection costs and existing customers that accept a managed connection will receive on-going payments. An integral part of the project would be a Customer Engagement Plan that would disseminate information about the project and its likely impact to those customers that are supplied from network in the project area.

### *Competition*

Electricity North West intends to offer the same opportunities to connect within the project area to Independent Connection Providers (ICP) and Independent Distribution Network Operators (IDNO). The project and the designated circuits within the project area will be clearly defined and communicated at the outset of the project. Electricity North West recognises that in many instances the connecting party will not be the final consumer. Electricity North West will protect the consumer through commercial arrangements with the connecting party.

### *Sustainable development*

The project is designed to minimise new network assets needed to support growth in demand. Customers' low-carbon activities, such as decarbonisation of heating and transport by using electric solutions and low-carbon generation, can be expected to significantly increase requirements for high voltage network capacity. Electricity North West considers that the primary driver for Capacity to Customers is to accelerate the transition to a low carbon economy by reducing the cost, disruption and time involved in providing the additional network capacity required.

In addition, reinforcement of electricity networks is itself an energy intensive activity, with network components (transformers, conductors, insulation etc) containing high levels of embedded carbon, and with carbon intensive installation techniques (e.g. excavating and burying cable; reinstatement of paved/bituminous surfaces). The project will minimise the amount of new HV and EHV network needing to be installed or reinforced, thus minimizing the consumption of energy and other resources. For the HV network, Electricity North West claims that the move to closed rings in the project area will initially reduce network losses. While increasing demand will increase losses, total network carbon emissions associated with reinforcement plus losses will still be lower with Capacity to Customers than with a continuation of the current design and operating standards.

### *Health and safety*

The only changes to the network that represent a theoretical impact on the current health and safety risks of operating the distribution network are the operation of HV closed rings and the application of automation systems. However, Electricity North West does not believe that this delivers an adverse health and safety impact because the feeder protection at the source primary substation will remain unchanged from that which currently protects the feeder.

Furthermore, Electricity North West have applied automation systems extensively on poorly performing circuits and are experienced in managing the operational risk. We will ensure that the Health and Safety Executive is aware of this consultation.

### *Other parties affected*

Any other DNO or IDNO connected to Electricity North West's distribution network that forms part of the project will be fully informed. It is not anticipated that their licence compliance will be affected in any way by this project. They may choose to actively participate in the project by commitment to a demand side response. National Grid Electricity Transmission plc has agreed to be a project partner. They will assess the impact of increased demand on their ability to comply with their licence requirements and undertake appropriate bilateral negotiations with Ofgem.

### **Ofgem's initial view of Electricity North West's proposed derogation request**

Based on the information provided to us at this stage, and possibly subject to certain conditions, we consider that it would be appropriate to grant a derogation to Electricity North West. Our reasons for this are based on the following observations and assumptions.

Firstly, we accept and would require that the only customers that would be materially affected by this derogation would be those that voluntarily agree to accept a managed connection. We would require that a comprehensive customer engagement plan be put in place to ensure that customers could not agree to such a connection without being made fully aware of the implications.

We would require that there would be no adverse impacts on Electricity North West, other relevant licensees or connected customers. We would require that robust mitigation measures would be in place and could be rapidly deployed in the event that the control measures failed to perform as intended.

We would require that the project plans were clearly and widely communicated so that there was no risk of anti-competitive behaviour. Also, we would require that plans were in place to restore compliance in the project area, in an agreed timescale, at the end of the derogation period. However, we note that Electricity North West intends to develop recommendations and with wider industry engagement, to change ER P2/6 if the project is successful.

## Consultation responses

We would stress that this is not a consultation on changing ER P2/6 or on the Capacity to Customers project. However, by including managed connection contracts, the network design and operational ideas that underlie Electricity North West's project represent a fundamental change of approach compared with ER P2/6. We would therefore welcome comments and observations from stakeholders at this stage. In particular, do you consider that Ofgem should grant a derogation for nominated circuits in Electricity North West's distribution services area, as described here, in the event that the Capacity to Customers project proceeds? If you do not support such a derogation, please set out your objections generally and where possible in the context of the derogation criteria set out in Chapter 3 of our Guidance on licence derogation requests.

Initially, these consultation responses will allow us to consider Electricity North West's Second Tier submission more thoroughly but it will also initiate a wider debate about future network design and operation.

Consultation responses should be sent to [neil.copeland@ofgem.gov.uk](mailto:neil.copeland@ofgem.gov.uk) by 30 September. Responses will be published unless we are asked to treat them as confidential.

Yours sincerely

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