

Gareth Evans
Head of Profession – Engineering
Ofgem
9 Millbank
London
SWIP 3GE

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Dear Gareth

Consultation on a Proposed Request for Derogation under Standard Licence Condition 24 of the Electricity Distribution Licence

UK Power Networks is pleased to respond to the above consultation and provide views on the proposal by Electricity North West to seek derogation from Standard Licence Condition 24 in respect of its proposed Capacity to Customers LCNF Tier 2 project.

In responding to this letter we are mindful of the fact that our Low Carbon London LCNF Tier 2 project, currently in train, also seeks to explore economic options to conventional reinforcement that might be available through contracted demand response in order to meet the (design) security standards prescribed under Engineering Recommendation P2/6.

The transition to a low carbon economy will have significant cost implications that will be reflected in customers' energy bills and electricity bills in particular. It is therefore incumbent on the industry to support the transition to a low carbon economy by means of both technological and commercial innovation wherever such innovation will contribute directly or indirectly to the decarbonisation of the sector in a manner that will ultimately reduce the impact of such decarbonisation on consumers' bills.

Engineering Recommendation P2/6 has served customers well in ensuring that electricity distribution networks are designed so as to achieve a balance between the incremental cost of providing additional capacity and the economic loss suffered by customers as a result of potentially long supply interruptions which would normally be avoided through the provision of such redundancy. While it is important to note that Engineering Recommendation P2/6 is not an operational performance standard per se, it is nevertheless a design security standard which should, under normal network operating circumstances, permit networks to be operated in a manner which will result in the achievement of the supply restoration performance levels specified under Table 1 of Engineering Recommendation P2/6.

Such performance standards have not been arbitrarily derived but instead are based on an assessment of pertinent factors such as average reliability of network components, typical return to service periods following an outage, and an assessment of value of lost load. ACE Report 51 (published in 1979) gave rise to the introduction of Engineering Recommendation P2/5 as a replacement for Engineering Recommendation P2/4, and introduced sophisticated reliability engineering and cost benefit analysis techniques to determine appropriate standards of performance and hence the requisite levels of network redundancy necessary to achieve such standards. It follows that any decision to depart from the performance standards laid out in Table 1 should not be taken lightly.

The factors underpinning the derivation of the design security standards laid down by Engineering Recommendation P2/6 are essentially generic and do not take into account specific network characteristics or the requirements of specific customer groups. Electricity North West states that the designated circuits to which its managed connection terms will be applied have historically performed well. If this continues to be the case, then customers supplied by those circuits will continue to receive high levels of quality of supply (albeit with a probable increase in short interruptions). Moreover, applying automation to such circuits should result in more customers benefitting from only short (less than 3 minute) duration interruptions rather than longer duration interruptions typically associated with manual switching, and significantly faster restoration times than the Engineering Recommendation P2/6 'within 3 hours: Group Demand minus 1 MW' restoration performance specified for Class B Group Demand (i.e. over 1MW and up to 12MW).

Automation is now a well established methodology for significantly reducing the duration of supply interruptions for the majority of customers impacted by a network fault. Moreover, in the event of an automation malfunction or circumstances leading to an automation scheme having to be temporarily suspended, Electricity North West confirms that it would resort to remote control and manual switching to isolate a fault and restore customer supplies. It follows that no concerns should arise as a result of this aspect of the proposal.

The principle being applied by the Capacity to Customers project is that something less than the whole of the Group Demand might be met following a network fault outage and subsequent post-fault switching to restore supplies. This is because customers who have voluntarily agreed to a managed connection, and have contracted a level of interruptible demand to Electricity North West, may (subject to network loading conditions at the time) be required to reduce their demand for a period of time following a network outage.

In order to minimise disruption to 'managed connection' customers following a network outage requiring a demand reduction, the requirement for actual demand reduction should be continuously reviewed and applied only if a failure to reduce demand would give rise to an unacceptable risk of overloading of network components. This might be particularly important following a fault outage where a demand reduction might be necessarily sustained (i.e. repeated daily) over a number of consecutive working days.

It will also be important to ensure that customers – and especially those who are actually supplied by the affected circuits, not just the party agreeing to the terms of the managed connection (e.g. an IDNO, ICP or developer) – fully understand the implications of agreeing managed connection terms. We presume that some form of risk assessment will be undertaken such that customers considering managed connection terms will have a good understanding (albeit with no guarantee) as to the likely frequency of events requiring demand reduction and the likely duration of such events. We assume that the Customer Engagement Plan will address this requirement.

In the same way that Engineering Recommendation P2/6 allows distributed generation to be taken into account where this can provide (to a given level of confidence) network support in lieu of network capacity, it is also appropriate to consider the role that demand response could usefully play in obviating the need for network reinforcement. By contracting for responsive demand with industrial and commercial customers, UK Power Networks' Low Carbon London project will test the feasibility of such contracts to save costly and potentially disruptive network major reinforcement. Electricity Network West's Capacity to Customers project, while focused on 11kV circuits rather than 132kV/11kV or 33kV/11kV substations (and while the form of contract might be different in a number of respects), is essentially applying a similar principle.

It should be noted that under the existing provisions of Engineering Recommendation P2/6, a departure from the recommended normal level of security is permissible subject to detailed risk and economic studies. However, objective assessments can be problematic due to the assumptions that are generally necessary in determining the level of economic loss that might be suffered by customers as a result of failing to meet the performance levels prescribed in Table 1, and this may in turn lead to a subjectively based assessment. If, however, customers voluntarily agree to a managed connection, then it is reasonable to assume that those customers will have undertaken some form of risk and economic assessment of the implications. Even if subjective, then it is the customer's, and not the DNO's, subjective assessment that determines the decision.

As such, it could reasonably be argued that in agreeing to managed connection terms, the risk and economic test had implicitly been applied by the customer and therefore the requirements of Engineering Recommendation P2/6 had been satisfied. That being the case, and leaving aside any question as to whether 'Group Demand' should or should not include controlled demand, it could reasonably be argued that no derogation from Engineering Recommendation P2/6 is actually required.

UK Power Networks believes that the potential role of responsive demand and/or managed connections in economically supporting the continuation of required levels of security of supply should be formally acknowledged. In the same way that ETR 130 provides for a limited contribution towards network security from embedded generation, it should be acceptable for responsive demand to make a similar contribution. Indeed, if the degree of demand curtailment is specified in the contract (in terms of magnitude, duration and speed of response) then it should be possible to assign a higher level of confidence to responsive demand than to non-contracted generation.

In conclusion, insofar as it is considered necessary for Electricity North West to apply for, and for Ofgem to grant, derogation under Standard Licence Condition 24, UK Power Networks supports the proposal to grant such derogation. Should Electricity North West's Capacity to Customers project be successful in receiving funding under the LCNF Tier 2 provisions, we would welcome the opportunity to share with Electricity North West the results of our respective trials. UK Power Networks believes that both projects could contribute important learning to the role of responsive demand in reducing the need for costly network reinforcement while potentially improving quality of supply performance as a result of being able to control demand at times of network stress.

UK Power Networks believes that the way forward, ultimately, is to undertake a further review of Engineering Recommendation P2/6 and ETR 130 with a view to formally acknowledging the role of responsive demand. Trials undertaken under both the Low Carbon London and the Capacity to Customers projects would provide valuable evidence to inform such a review leading to the documentation of a revised standard. This in turn would remove any future need to consider derogation from Standard Licence Condition 24 where responsive demand is applied in accordance with the terms specified under the revised standard.

We hope that you will find our comments hopeful and confirm that we have no objection to this letter being published on Ofgem's website.

If you have any questions about our response, please do not hesitate to contact me.

Yours sincerely

Keith Hutton
Head of Regulation

Copy: Dave Openshaw, Head of Future Networks
Paul Measday, Regulation Manager