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for energy consumers

Company Secretary
UK Power Networks (LPN)
Newington House
237 Southwark Bridge Road
London
SE1 6NP

Direct Dial: 020 7901 7159
Email: lcnfund@ofgem.gov.uk

Date: 05 August 2015

Dear Company Secretary,

Low Carbon Networks (LCN) Fund – amendments to UK Power Network's (UKPN) Flexible Urban Networks – Low Voltage Project

This letter contains our¹ decision to approve amendments to the Project Direction for the LCN Fund project Flexible Urban Networks – Low Voltage (the Project).

Background

In 2013, you were awarded Second Tier Funding² for the Project. On 19 December 2013 we issued a Project Direction³ to UKPN.⁴ The Project Direction sets out the terms to be followed in relation to the Project as a condition of it being funded under the Second Tier and Discretionary Funding Mechanism.⁵

On 28 May 2015, you asked us to make amendments to the SDRC deadline set out in the Project Direction. We asked for further explanation of the requested amendments from you and received the final details on 15 June 2015. These amendments are due to:

- problems in the supply chain of new housings for the power electronic devices being trialled, and
- the need to retender for the low voltage (LV) monitoring equipment that will be used by the Project.

SDRC 9.4 - Successful and safe installation, commissioning and operation of power electronics devices in London and Brighton

Part of the Project involves trialling and monitoring the use of power electronic devices to mesh parts of the LV network. One Successful Delivery Reward Criterion (SDRC) requires all of the devices and associated monitoring equipment to be installed by 28 June 2015. You have encountered two issues which affected your ability to meet this deadline.

¹ The terms "the Authority", "Ofgem", "we", "us" and "our" are used interchangeably in this letter. The Authority is the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

² Second Tier Funding has the meaning given in CRC 2J of the Electricity Distribution Licence.

³ <https://www.ofgem.gov.uk/publications-and-updates/low-carbon-networks-fund-project-direction-flexible-urban-networks-low-voltage>

⁴ This was pursuant to the LCN (Low Carbon Networks) Fund Governance Document issued pursuant to Part E of Charge Restriction Condition 13 ("CRC13") of the Electricity Distribution Licence.

⁵ Second Tier and Discretionary Funding Mechanism has the meaning given in CRC 2J of the Electricity Distribution Licence.

Power electronics cabinets

The first problem relates to the production of the devices that will mesh two substations using power electronics. As the power electronic devices are new, they require bespoke cabinets to house them. The firm manufacturing the cabinets has experienced a series of challenges with the design and construction of the cabinets, which have delayed their delivery to the firm assembling the devices. There were longer than expected lead times to establish the size of the engineering parts, and delays in agreeing the cabinets' paint specification with local authorities. These delays meant the first manufacturing slot at the factory was missed.

The supplier of the cabinets has taken action to mitigate the effects of the delays. These include several visits to the cabinet manufacturer to attempt to reduce delays, staff working their maximum hours under the European Working Time Directive, some key staff waiving their rights under the directive and running double shifts to ensure production is at full capacity. The final devices are expected to be delivered in July 2015.

You explored potential action to mitigate further the effect of delays, including undertaking the civil works in advance of the devices being ready for installation. However this proposal was not accepted by local councils as it would result in open excavations being left in streets.

LV monitoring equipment

The second problem relates to the monitoring equipment to measure the effect of the devices being trialled on the network. The new monitoring equipment intended for use in the Project failed testing following manufacture. You were notified of this near the end of the contract negotiation and were informed that the likely delivery date was 1 September 2015. You decided to retender for the equipment to try to bring forward the delivery date. The conclusion of this tender process resulted in another supplier being identified with an expected delivery of the devices two months ahead of the original supplier. The Project will also make use of some monitoring equipment left over from one of your LCN Fund First Tier trials.

Consideration and conclusions

The impact of the delayed receipt of the monitoring and power electronics equipment means that you have not been able to install the devices by the 30 June 2015 deadline. You have proposed an amendment which would delay the SDRC deadline until 30 September 2015. This will allow time for the installations to be completed with some contingency for any further delays in delivery or installation.

You intend to begin installations as soon as the equipment is available and begin the trials on a staggered basis. This will allow data collection to begin in advance of the final installations. You have stated that this approach will ensure that the delays will not affect the quality or volume of data collected. You have also stated that these changes will not affect the Project's budget.

Although we consider that some of these delays could have been anticipated, we accept that much of the delay could not have been reasonably foreseen and reflects the innovative nature of the trials. We also note your assurance that the quality and volume of data collected will not be affected. We therefore approve your request to amend SDRC 9.4 in the manner shown in Schedule One to this letter. You should ensure that you record and disseminate fully the learning from this experience.

We also note that your request was submitted only one month in advance of the SDRC delivery date which has since elapsed. It is preferable for change requests to be resolved in advance of SDRC deadlines passing.

Decision

In accordance with Section 15 of the Project Direction, and in particular Section 15 (i), the Authority hereby amends the Schedule to the Project Direction in the manner set out in the Schedule to this Direction.

This letter constitutes notice of reasons for our decision pursuant to section 49A of the Act.

Yours sincerely,

A handwritten signature in blue ink that reads "Andy Burgess".

Andy Burgess

Associate Partner, Smarter Grids and Governance

For and on behalf of the Authority

Schedule One

1. Amend existing section 11 (Successful Delivery Reward Criteria)

Amend existing section 11 of the Schedule to the Project Direction in the following manner:

9.4	<ul style="list-style-type: none">• Successful and safe installation, commissioning and operation of power electronics devices in London and Brighton by 28 June 2015 <u>30 September 2015</u>	<ul style="list-style-type: none">• Dual and multi-terminal power electronics device approvals for application on UK Power Networks' LV network;• Guidance document on the safe and appropriate installation of dual and multi-terminal power electronics devices on the LV network, which will be shared as learning;• Dual and multi-terminal power electronics device installed on a test network to demonstrate functionality in a controlled environment;• Dual and multi-terminal power electronics device electrically connected to the LV network;• Autonomous power transfer between connected substations is demonstrated;• Power electronics device performance and reliability data;• Distribution network monitoring data; and• Additional LV monitoring data installed for the purpose of the trials.
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