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The Office of Gas and Electricity Markets
9 Millbank
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13 June 2011

RE: Generator charges at the HV and LV level

Dear Rachel,

I am writing on behalf of the DNOs' Common Methodology Group (CMG) with regard to the condition placed on the approval of the CDCM under licence condition 50, which requires DNOs to examine the case for developing the charging regime for generators that are connected to the lower tiers of the distribution networks. In what follows I first set out our conclusions to date and then go on to describe our next steps.

As you are aware we have commissioned Frontier Economics to assist us in the examination of these issues. Their final report is attached to this letter. In its report, Frontier examined the extent to which new generation connecting to the lower tiers of the distribution networks might trigger the need for extensive and costly reinforcement of the networks. Frontier concluded that,

even under very aggressive assumptions regarding the penetration of distributed generation at the high voltage (HV) and low voltage (LV) levels, it is very unlikely to be the case that large parts of the distribution network will require reinforcement in this decade.

For example, Frontier has calculated that, even if nearly 12GW of generation were to connect to the lower voltage tiers of the distribution networks over the course of this decade then, given assumptions about the locational dispersion of that generation, between 4% and 6.2% of all DNO's 4,616 Primary substations might become dominated by generation and trigger reinforcement as a result of additional generation connection. If generation growth was lower than this and in line with FBPQ submissions at the time of DPCR5 – which, when extrapolated to 10 years, would translate to 5.6 GW of new generation connecting to the network – then the proportion of primary substations that might potentially require reinforcement would be in the order of 3 – 3.5% of primary substations over the period.

The Frontier report sets out a number of caveats on this analysis. Two important ones are:

- First, Frontier's analysis has been limited by the extent of data availability from all DNOs. As such, it has defined a test to assess the extent to which areas of the network might become generator dominated in line with the available data. Other tests are conceivable although data does not readily exist to undertake such analysis.
- Second, it is worth noting that, perhaps unsurprisingly, there are regional variations between DNOs. A significant proportion of the primary substations that might become generator dominated are in the SHEPD region. This is a function of the very low demand and, as a consequence, low capacity, in some areas of that network. Hence, were significant volumes of generation to connect in this area, it would be unsurprising if network reinforcement were triggered. At the other extreme, the London area is unlikely to experience a significant need for network reinforcement as a result of the connection of distributed generation by virtue of the high levels of demand in the area.

Given these findings, Frontier goes on to examine the case for introducing locational charges at the lower tiers of the distribution network. Their approach is to consider, quantitatively, the likely costs and benefits of introducing a charging regime that varies by location for each DNO. Their key findings are:

- There is currently no case for introducing a complex charging regime that would send locational signals to the LV level with a high degree of geographical granularity. The costs of implementing such a regime are potentially very high (c£250m over the decade) and would require an implausibly high impact on generation growth patterns to be justified. Frontier does note, however, there may be a case for re-examining this issue with the roll out of smart metering (although, even then, cited qualitative reasons may deter such a policy).
- There might be a case for considering changes to the charging regime for HV generators only, *so long as such changes can be introduced in a manner that is consistent with today's systems and process for charging used by the industry*. By keeping the costs of changing the charging regime low, the required impact on generator siting decisions does not need to be particularly high to justify such changes. Frontier has calculated that the costs of changing the regime to accommodate variances in HV charges might be in the order of £6m. Therefore, given assumptions on the costs of network reinforcement, it would not require many generator siting decisions to be impacted by the charging regime before this was potentially beneficial to customers.
- Frontier does note that, irrespective of the quantitative nature of the findings, a number of qualitative issues need to be considered. These relate primarily to simplicity and transparency – for example, clearly it would not be sensible to develop a regime that because of its complexity and unpredictability deterred generation from connecting to the network.

In light of these findings, DNOs propose to submit a DCUSA modification proposal based on one of the three options listed below to change the charging regime for HV generation. The three 'dynamic charging' options are:

- **Option 1:** The introduction of a very simple locationally varying charging regime for HV generators. For example, each DNO might have a positive, zero and negative charge in different zones of its network for HV generators. These charges would be a function of the extent to which incremental generation connecting in that area would be likely to trigger reinforcement (or indeed, offset future reinforcement on account of demand growth);
- **Option 2:** The introduction of a different regime for levying credits on HV generation. Even simpler than Option 1, this approach would not consider locational aspects within a DNO per se, but allow a more dynamic calculation of the credit that HV generators currently receive. Such a credit could be reduced in DNOs that are likely to experience more network reinforcement costs as a result of increasing penetration of generation at the HV level. Clearly this

would be less beneficial in terms of sending a signal to generators, but might be simpler and less costly to introduce; and

- **Option 3:** To amend the existing charging regime to not apply credits to HV generation in locations that are considered to be generator dominated.

Any change needs to be put into context with methodology issues currently being progressed through the Methodology Issue Group (MIG) and through DCUSA. Generation credits and charges will be impacted by the following planned changes:

- MIG001 – 500MW model
- MIG002 – Standing Charge factors
- MIG004 – Justification of non-scaling generator charges
- MIG013 – HH generation intermittent/non-intermittent tariffs
- MIG 015 – Time of Day time bands to Seasonal Time of Day

Additionally, generation credits have also already been impacted through DCP077 where the regulatory rate of return was updated to 5.6% from the original 6.9%. Generally this change reduced the credits being paid by approximately 10% across all DNOs.

Moving forward our plan is to explore the three change options previously mentioned by setting up a MIG working group to agree which option should be progressed into a DCUSA modification proposal.. Our intention will be to introduce any changes to the methodology in time to be implemented in April 2013. This is consistent with the following timetable:

- Establish MIG generation charging work group – July 2011
- Design the implementation options required to provide dynamic generation charging – Q3 & Q4 2011
- Establish DCUSA change proposal (DCP) – Q1 2012
- Gain approval of DCP – Q3 2012
- Implement in DCUSA – Nov 2012
- Impact on charges from April 2013

This timetable is subject to receiving appropriate support for these plans from Ofgem in the form of a response to this letter and report.

We trust that Ofgem will agree with the findings from Frontier Economics and the subsequent plans that the DNOs intend to follow.

We now feel that it is appropriate for Ofgem to remove the condition that was placed upon them with regard to Generation Dominated Areas. It should be stressed that DNOs have equal concerns regarding the solution of this issue but reiterate that progress is now being made in the evolutionary improvement

path of the CDCM. We are also conscious that the ability to progress any solution through to implementation is dependent on the governance processes in place.

Please do not hesitate to contact me if you require any further information.

I look forward to hearing from you.

Yours sincerely

A handwritten signature in black ink. The signature consists of a stylized, circular scribble followed by the name "Neves" written in a cursive-like font. A long horizontal line is drawn underneath the signature, extending to the left and then slightly upwards at the end.

Andrew Neves - CMG Chair