

Modification proposal:	Connection and Use of System Code (CUSC): Response Energy Payment for Low Fuel Cost Generation (CMP237)		
Decision:	The Authority ¹ directs that this modification be made ²		
Target audience:	National Grid Electricity Transmission plc (NGET), Parties to the CUSC, the CUSC Panel and other interested parties		
Date of publication:	31 October 2016	Implementation date:	1 February 2017

Background

Certain generators are required by the Grid Code to provide a Mandatory Frequency Response (MFR) service to assist the System Operator (SO) with keeping the electricity system frequency within a designated target of 50Hz and receive payments for doing so, in accordance with provisions set out in the CUSC. These payments are split between a Holding Payment for being available, and a Response Energy Payment (REP) which is a utilisation payment designed to cover the costs of energy production. Generators submit holding price (HP) tenders on a monthly basis and NGET, as the SO, ranks these tender submissions in economic order and selects providers with the lowest HPs to provide the service. Where generators are instructed to increase their output (Low Frequency Response), they receive a REP payment to compensate for the energy costs incurred. Where generators are instructed to reduce their output (High Frequency Response), they pay NGET, as the SO, for the energy costs saved from reducing output. Under the MFR service the REP is determined by the Market Index Price (MIP).

Evidence indicates that providers with low or negative marginal costs are submitting HPs which are typically the highest in the market. This means that these generators are not ranked highly in the merit order and therefore are unlikely to be called to provide the services. The reason these types of generators are submitting high HPs, according to the proposer, is because the REP does not reflect the actual costs incurred for providing this service. For instance, if a wind generator is instructed to provide High Frequency Response (reduce output), it would be required to pay NGET for the cost that was avoided in reducing its energy production when no costs would actually have been incurred. This generator also has to potentially forego renewable subsidies (e.g. RO, CfD and FITs³) as a result of reducing output. As a result, these generators are effectively submitting HP tenders to price themselves out of consideration which could be inhibiting competition within the MFR market.

The REP was designed to be cost reflective in a period where providers of the service were, on the whole, thermal generators and would experience changes in their costs when changing output (i.e. have positive marginal costs). With the increase in renewable generation however, there has been an increase in MFR providers with zero or negative marginal costs of production. The REP payment therefore does not accurately reflect this type of generator's cost. This could be having a negative impact on competition within the MFR market.

The CUSC⁴ (4.4.2.2) requires REP charges be cost reflective to the extent that they are based and founded upon the actual or estimated costs directly incurred or to be incurred by the user for the purpose of providing the service. The current design of the REP does not adequately reflect that some generators will have zero or negative marginal costs.

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

² This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

³ Renewables Obligation, Contracts for Difference and Feed in Tariff.

⁴ The Connection and Use of System Code (CUSC): <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/The-CUSC/>

The modification proposal

NGET (the 'proposer'), raised CMP237 in September 2014. As the SO, NGET identified that the structure of the REP could be inhibiting competition within the MFR market.

To address this issue, CMP237 proposes to exempt generators that have been classed as having zero fuel costs from receiving or paying the REP. By setting the REP to zero for this class of generator this removes the cost or avoided cost of fuel that has not been used or saved. The proposer considers that this would provide greater certainty to this class of generator as they are able to submit tenders more accurately based around their cost of providing this service. They also consider that it would reduce the incentive for these types of generators to submit high HPs, which they consider should enhance competition within the MFR market.

The workgroup sought to identify which generators would be classed as 'non-fuel'. The Original proposal initially identified non-fuel generators as onshore wind, offshore wind, solar, tidal, wave, hydro and battery storage. Following discussion, the workgroup agreed that:

- Battery storage has a cost associated with taking electricity from the system in order to be able to provide it back under Frequency Response conditions, and therefore this is equivalent to a fuel cost.⁵
- Hydro (storage) has an energy production cost associated with it in terms of its handling and holding as well as a (lost) opportunity cost because, if not used to provide Frequency Response, it can be sold in the energy market at a later date. The proposer agreed that there is a missed opportunity cost with the fuel stored. However, this should not be classed as a fuel cost as rain and river water are free to collect. The proposer accepted that the water collected had value in that it could be used to generate electricity.
- One workgroup member also noted that the list did not take account of technologies not currently used in GB. This member suggested a potential option for change which specifically referenced technologies such as tidal barrage and generating plant with batteries as having a fuel cost.

The workgroup consulted on the potential options for change and, taking stakeholder comments into account, agreed that generators classed as being non-fuel would be onshore wind, offshore wind, solar, tidal and wave.

The workgroup examined and discounted various alternatives, settling on one Workgroup Alternative CUSC Modification (WACM). Under the Original proposal the REP would be set to £0/MWh for generators classed as non-fuel whereas the WACM would give non-fuel generators the choice to use the current REP mechanism, or to have a zero REP payment. This choice would be made by this type of generator on an annual basis.

The workgroup considered that both the Original proposal and the WACM better met the CUSC objectives, in particular objective (b). However, there was a split view on which option was best, with half of the workgroup considering the Original to be best and the other half considering the WACM as best.

Whilst considering the proposal under CMP237, the industry workgroup identified a separate potential defect with the REP. The workgroup considered that the underlying Market Index Price (MIP), used as a proxy to derive the REP, was becoming increasingly volatile due to a more diverse range of technologies on the system which have different marginal costs. This, according to some on the workgroup, is resulting in providers who

⁵ CMP237 CUSC Modification Report, p.12,

are unable to accurately calculate their positions, factoring risk into their HP submission to compensate, in turn resulting in them pricing themselves out of consideration.

Subsequently, a further modification proposal (CMP243) was raised to address the potential defect. Under this proposal the REP would be calculated based on the MIP 10 days ahead of the HP submission and would apply only to generators not covered by CMP237. These changes, according to the proposer of CMP243, would allow this class of generators to more accurately calculate their position, reducing the incentive to factor risk into their HP tenders which should enhance competition in the MFR market. We have decided to reject CMP243 for the reasons set out in our separate decision also published today⁶.

CUSC Panel⁷ recommendation

At the CUSC Panel meeting on 31 July 2015, a majority of the CUSC Panel considered that both the Original and the WACM would better facilitate the CUSC objectives compared to the current arrangements, but that, by a majority of 8 to 1, the Original proposal would best facilitate CUSC objectives, in particular objective (b). The Panel's recommendation was therefore to approve the Original modification proposal and the WACM. The Panel's views are set out in full in the (FMR).

Our decision

We have considered the issues raised by the modification proposal and the FMR dated 14 August 2015. We have considered and taken into account the responses to the industry consultations on the modification proposal which are attached to the FMR.⁸ We have concluded that:

- implementation of the Original modification proposal will better facilitate the achievement of the applicable objectives of the CUSC;⁹ and
- directing that the modification be made is consistent with our principal objective and statutory duties.¹⁰

Reasons for our decision

We consider that the modification proposal will better facilitate CUSC objective (b) and has a neutral impact on the other applicable objectives.

(b) 'facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity'

All Panel members agreed that the Original proposal would better facilitate objective (b) while a majority also considered that the WACM would better facilitate this objective.

⁶ Our decision to reject CMP243 can be found on our website here: <https://www.ofgem.gov.uk/licences-codes-and-standards/codes/electricity-codes/connection-and-use-system-code-cusc>

⁷ The CUSC Panel is established and constituted from time to time pursuant to and in accordance with section 8 of the CUSC.

⁸ CUSC modification proposals, modification reports and representations can be viewed on NGET's website at: <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/>

⁹ As set out in Standard Condition C10(1) of the electricity Transmission Licence, see: <https://epr.ofgem.gov.uk/Content/Documents/Electricity%20transmission%20full%20set%20of%20consolidated%20standard%20licence%20conditions%20-%20Current%20Version.pdf>

¹⁰ The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

Regarding the Original, the Panel's view was that this proposal would allow non-fuel generators to reflect their costs more accurately thereby removing a barrier to competition for this class of generator in the MFR market.

In comparison to the WACM, a number of Panel members also considered that the Original was more transparent and less administratively cumbersome.

One workgroup member considered that the WACM has an additional benefit in that it allows non-fuel generators to choose between two options, which is better from the perspective of competition and therefore in their view better compared to the Original. However, another workgroup member thought that giving non-fuel generators the choice would undermine the overall modification; another member considered that the report had not made the case for having a choice under the WACM.

A workgroup member also raised concerns that a key aspect that the proposal overlooks is that the REP is not just to cover the costs or avoided costs of fuel in providing this service but is to cover the costs or avoided costs of energy production. This member noted that energy production costs also included operational, maintenance and financing costs.

We agree with the views expressed by the Panel relating to objective (b) with respect to the Original modification. Analysis undertaken by the workgroup demonstrated that for Primary, Secondary and High MFR the majority of generators submitting HPs in excess of £100/MWh were wind generators.¹¹ This analysis shows that wind generators are being ranked amongst the highest in the merit order which effectively prices them out of consideration by the SO. Further analysis undertaken by the workgroup estimates that onshore wind generators have a negative marginal cost of around -£50/MWh and for offshore wind generators it is around -£100/MWh.¹² This analysis supports the assertion that non-fuel generators are submitting higher HPs in order to price themselves out of consideration. The Original proposal addresses the defect by setting the REP to £0/MWh for non-fuel generators. This would result in a utilisation payment that more accurately reflects the costs incurred by these generators. We agree that the modification would remove the incentive for non-fuel generators to submit artificially high HPs, as they factor risk into these tenders. This should result in greater competition within the MFR market as non-fuel generator tenders would be more accurately based on actual costs.

In respect of the WACM, and allowing non-fuel providers the option of whether to select a REP under the current design or one set at £0/MWh we consider that there are two issues. Firstly, as highlighted by one Panel member, we consider that the FMR did not present a case as to why one set of providers (non-fuel) would be given the option while the remaining providers would not. Our view is that allowing one category of generators the option while not giving the other category the same option may be detrimental to competition and could potentially be deemed discriminatory.

Secondly, as also raised by a Panel member, in our view allowing non-fuel generators to select the option under the current REP would not address the identified defect as generators selecting this option would receive a price that is unlikely to reflect their costs. This option is also less likely to improve competition in the market as compared to the Original.

Regarding costs covered under the REP, we accept the views expressed by the workgroup member that the intention of the payment mechanism is not only to cover fuel costs but all costs associated with energy production. However, setting a REP to £0/MWh for providers with zero fuel costs would result in a utilisation payment that more accurately

¹¹ [CMP237](#) CUSC Modification Report, p.10 Figures 1,2 & 3

¹² [CMP237](#) CUSC Modification Report, p.84

reflects these providers' costs. This change will result in increased certainty for this class of generator, allowing them to submit HPs based on their actual positions which is likely to enhance competition within the MFR market.

Implementation date

The FMR sets out that the workgroup agreed CMP237 should be implemented into the CUSC 10 working days after our decision, with a transitional period of three full calendar months. The report sets out that 'practical implementation' would be on the 1st day of the following month, after that three month period. However, there is no provision made in the legal drafting to facilitate the intended transitional approach to implementation. Were CMP237 to be implemented 10 working days after our decision, the provisions would come into effect on the date they are included within the CUSC; the legal drafting does not reflect that the changes are not intended to have immediate effect.

NGET has clarified that the intended implementation date is not 10 working days following our decision as suggested in the FMR, but is the 1st day of the month three full calendar months after our decision. The changes will therefore be implemented on 1 February 2017, in accordance with the intended approach to implementation.

Decision notice

In accordance with Standard Condition C10 of NGET's Transmission Licence, the Authority, hereby directs that modification proposal CMP237 '*Response Energy Payment for Low Fuel Cost Generation*' be made.

Mark Copley

Associate Partner, Wholesale Markets

Signed on behalf of the Authority and authorised for that purpose