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### Charging arrangements for embedded generation

EDF Energy is one of the UK's largest energy companies with activities throughout the energy chain. Our interests include nuclear, coal and gas-fired electricity generation, renewables, and energy supply to end users. We have over five million electricity and gas customer accounts in the UK, including residential and business users.

### Response

- We welcome Ofgem's letter and strongly support the need to reform embedded benefits derived from network charging arrangements.
- Given current arrangements are materially distorting investment decisions and outcomes in the Capacity Market we consider action is required urgently. CMP 264/CMP 265 are important and must be decided at the earliest opportunity due to the potential to have a material impact on the next capacity auction (December 2016). These distortions arise from allowing the demand residual charge to be an embedded benefit.
- We acknowledged when we raised CMP265 that this modification was not a substitute for a holistic review of network charging arrangements for demand and embedded generation and we are still of that view.
- We consider that Ofgem has highlighted a number of the key issues to be addressed: other embedded benefits, allocation of sunk/fixed costs, charging arrangements for storage and "behind the meter" generation. Due to the interactions and across-code nature of the issues, e.g. distribution / transmission, and complexity of this topic we consider that there is a strong case for Ofgem to launch a holistic review through a Significant Code Review (SCR).

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- A SCR would address issues with the current piecemeal change through code modifications and should be more efficient but it will be important that through such a review the key priorities are identified quickly and reform is delivered in a timely manner. Given the importance and materiality of these issues Ofgem should launch this review now.

Our detailed response is set out in the attachment to this letter. Should you wish to discuss any of the issues raised in our response or have any queries, please contact Mark Cox on 01452 658415, or me.

I confirm that this letter may be published on Ofgem's website.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Angela Hepworth".

Angela Hepworth  
Corporate Policy and Regulation Director

## Triad-related embedded benefits and CMP265

EDF Energy welcomes the publication of Ofgem's letter. We have supported a review of transmission network charging arrangements for embedded generators in responses to relevant consultations by National Grid since 2011, and in our response to the LC13 (small generator discount) consultation by Ofgem last year. We share the provisional view you offer in your open letter, that the present arrangements over-reward embedded generation, distorting investment decisions and leading to inefficient outcomes, particularly in the Capacity Market.

It is for this reason that we raised the narrowly-focussed CUSC modification CMP265, aimed at correcting this particular distortion. We made clear, in raising CMP265, that we support a wider review of charging arrangements, including the arrangements as they affect embedded generation (including that which is not in the CM). We believe that transmission charging arrangements should be cost-reflective; the locational charge elements are intended to be cost-reflective, but when applied to demand, they lead to almost no net collection of revenue. Network charges must recover the network companies' allowed revenues which has led to the need for a growing demand residual charge element which scales up the cost reflective element to recover allowed revenues. The residual scaling element, which was £11/kW in 2005/6, is presently £45/kW, and is going to be £72/kW by 2020. The effect of the current arrangements is that the demand residual charge element is available to smaller embedded generators as a credit, this credit representing an extra income stream to them not available to larger embedded generators of above 100 MW in size, or to transmission-connected generators (which in Scotland, may be as small as 22 MW).

This distortion is allowing some embedded generators to make supernormal profits, which ultimately is paid for by consumers. To put this in context, at a future level of £72/kW, it is more than three times the clearing value of the first two Capacity Market auctions. In competitive and economic markets supernormal profits are typically competed away through market entry (incentivised by the supernormal profits being earned by the incumbents). In this case, the market design that gives rise to the TNUoS embedded benefit distortion also means that market entry actually increases the value of the supernormal profit (as total costs must be recovered from a lower net demand base). This positive feedback loop is another reason the distortion should be addressed.

There is no logical basis for arrangements in which the demand residual charge element forms such a credit; it is a mere artifice to ensure that the correct amount of revenue is collected from demand as a class; it is not fundamentally a cost-reflective signal. Allowing all sub-100-MW embedded generation to benefit from the demand residual charge element has been estimated by Grid in its presentations to CMP265 workgroup, to cost £350m p.a. at present, growing to £1b a year by 2025. This cost falls on consumers, as this effect itself leads to a raised demand residual charge element, to make up what would otherwise be a shortfall in demand TNUoS income. The effect of this is also to distort the market by providing an un-level playing field as between <100 MW embedded, and other, generation.

We agree that the sooner the benefits of reform in relation to at least the distortion in the CM can be realised, the better, subject to some notice period, and can conceive that implementation of our modification CMP265 with effect from 1<sup>st</sup> April 2019, could have benefits over the implementation date we suggested of 1<sup>st</sup> April 2020. The choice of implementation date, should the modification be passed, is of course at Ofgem's discretion, as has been acknowledged in discussion at the workgroup. We agree that grandfathering arrangements risk increasing consumer costs and introducing or perpetuating unwarranted distortions between different classes of generator. We are strong advocates of investor certainty and ensuring parties are protected from unexpected regulatory decisions. However, in this case, it has been clear for some time that the current transmission charges and associated embedded benefits were unsustainable and would be reformed. Therefore we do not consider a material notice period for change or transition is necessary and certainly reforms should be fully effective before the next Capacity Market delivery year.

#### Wider Charging Review

We would like to see the wider review of charging taken forward. We believe that this needs strong leadership and needs to be undertaken in a holistic way to ensure that issues are seen in the round and issues not addressed piecemeal. By doing so it is likely to be more efficient, identify priorities and not remove certain distortions only to create others elsewhere in the arrangements.

There is a strong case to undertake a review. Network charging arrangements have largely not changed in the last 20 years and yet there has been material changes to the generation mix and now increasingly the energy system is evolving with decentralised generation, aggregation and more active customers. New technologies, such as solar, storage and smart half hourly meters, are also asking new questions of these arrangements. As highlighted above there is already compelling evidence of flaws in the arrangements and these are now starting to create material distortions to the market, signalling potentially inefficient investment and leading to higher consumer costs. We also bring to Ofgem's attention the content of the new CEER position paper<sup>1</sup>, which concludes that "cost-reflective, transparent tariffs are key to prevent undesired cross-subsidies from ordinary consumers to self-generators". This focuses more narrowly on self-generation but the same is true more generally.

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<sup>1</sup> [http://www.energy-regulators.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/CEER\\_PAPERS/Electricity/2016/C16-SDE-55-03b\\_Renewable%20Self-Consumption\\_QA.pdf](http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Electricity/2016/C16-SDE-55-03b_Renewable%20Self-Consumption_QA.pdf)

Ofgem should launch a Significant Code Review process to give appropriate governance around such a review. We consider that this review should be initially wide and then narrow down as the key priorities are identified. We recognise that it will be very challenging to cover both distribution and transmission charges under one review (given the breadth) but as far as possible this would be the right approach given the interactions if the practical aspects can be overcome. We consider that this review should be launched as soon as possible to provide leadership on these issues and be resourced to allow timely delivery of conclusions to provide certainty to the market and then time for implementation.

We agree with the issues that Ofgem identify in section 7 of the letter that require further review, namely: other embedded benefits, allocation of sunk /fixed costs, charging for storage and 'behind the meter generation'. It is critical with significant changes to the energy system that network charges do not create market distortions between different operators in the market. It may be appropriate to reconsider the balance between Generators and Demand in how network charges are recovered as well. In addition Ofgem should also consider the change and opportunity that the roll-out of half hourly smart meters will bring. The charging framework also needs to be robust against expected future change, such as increasing electric vehicles and heat pumps.

As part of this review it will be important to review tariff structures to ensure that network charges reflect the underlying drivers of network costs. For instance, a large part of network charges is recovered on an energy basis and yet a large proportion of the network costs are capacity-based, or are sunk fixed costs. Tariff structures need to better align with underlying network costs to avoid creating market distortions.

Such an assessment needs to review whether the current charging principles are fit for purpose. We support the need for network charges to be cost-reflective as this is likely to support competition in generation and deliver best value for consumers. However, with a large part of network charges being used to recover sunk costs, questions around fairness need to be considered. With fixed sunk costs becoming a larger part of the network charge it is important to consider who should pay these costs. This is not about providing the right economic behavioural signal but rather a social fairness question. Larger fixed elements to the bill will impact types of customers differently in addition to the risks of distorting the market if not allocated sensibly, e.g. in the case of embedded benefits.