RESPONSE TO CONSULTATION ON THE TARGETTED CHARGING REVIEW

Response on behalf of LWS (CHP) Limited

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Introduction

This document is a response to the consultation published by Ofgem on 13th March 2017 dealing with the options for recovering the TNUoS and DUoS Residual Charges, the principles for carrying out a Significant Code Review (SCR) on the same issues, changes to the charging regime for storage, and the treatment of smaller embedded generation (the Consultation). The response is made on behalf of LWS (CHP) Limited, a developer of small scale generation within the GB market.

Key points

The value of residual charges for transmission has increased significantly in recent years. We would agree that this is an issue that needs to be addressed. There are many causes for this increase and it is clear that to a significant extent this is as a result of the unintended consequences of policy interventions and the failure to apply regulatory best practice. Forward looking charges are not cost reflective. If evidence was required of the failure of forward looking charges to reflect costs then it is to be found in Ofgem's own numbers, which indicate that almost one third of the value of the transmission residual charge in 2021 will be attributable to offshore wind. That is, offshore wind is being subsidised by an amount that will add £22/kW to the value of Triad payments in 2021. Investment decisions are being biased and this is not in the best interests of consumers.

Although this consultation explicitly excludes consideration of CMP 272 and CMP 274, the consultations are intimately linked and common argumentation appears, particularly in Chapter 7. We therefore, draw our analysis from the argumentation in both consultation documents. We draw Ofgem's attention to our comments on the consultation on those CUSC modifications.

If the current level of embedded benefits is too large, it is because the charge to consumers for their peak demand is too high and not cost reflective. Therefore, it is self-evident that the CUSC modification WACM4 and a review targeted solely at the residual as currently calculated cannot address the real problem. Ofgem should address the fundamental problems with transmission charging rather than creating further distortions by piecemeal changes.

Ofgem has indicated that it will undertake a SCR, but the scope for that SCR excludes forward looking charges. This is clearly inadequate, since it is the incorrect calculation of forward looking charges and associated policy-driven subsidies to certain classes of grid user that have caused the rapid growth in the residual elements. It is not possible to make decisions about methods of cost recovery for residual costs that best meet the objectives of being proportionate, practical and fair, particularly to vulnerable customers, if the amounts being recovered are incorrect by an order of magnitude.

The conclusions set out in the Consultation are based upon a number of fundamental misconceptions that appear also in the consultation on proposed CUSC modifications CMP 272 and CMP 274.

Short Run Verses Long Run Marginal Costs

In order to give the correct investment signals transmission charging needs to reflect long term costs.

It has long been a tenet of the regulation of transmission charging that the prices should be reflective of long run marginal cost (LRMC). Transmission assets have very long lives and to send the correct signals to existing and potential transmission users it is necessary to indicate the costs of those assets over their working life. This includes amortised capital and also operating costs. This concept measures the cost of marginal changes to the current grid configuration. As long as the grid in its current form is expected to continue to exist, and grid supplied electricity demand is expected to grow, this form of pricing is a sensible compromise for signalling costs to grid users. Although described as being long term, it starts from a fixed base and is more properly described as a medium term marginal cost. It is not the long run marginal cost of running an economically efficient grid.

The current system of charging customers for transmission costs using demand measured at the Grid Supply Point (GSP) at times of system peak has been established for many decades. The explicit rationale for this formulation is that the size and cost of the transmission system is driven by the level of peak demand. This is based upon the engineering judgement that, with minor constraints, a transmission grid that is capable of accommodating peak flows will also accommodate the flows during the rest of the year. Therefore, the long term costs are driven by forecasts of peak demand. This is a sensible charging principle and should not be abandoned. Complete removal of a charge based on peak demand would itself create a distortion. However, the amounts being recovered in this way should be reflective of long term costs.

The current charging for peak demand is described as a “Residual” but this is not correct. There are two elements: (i) long term costs related to peak demand that are not be recovered correctly in the forward looking charges; and (ii) a true residual attributable, at least in part, to stranded assets and also to a minimum level of costs unrelated to system size or use.

If peak demand has fallen or is expected to fall, then the transmission system is over-sized. However, in its analysis Ofgem implicitly assumes that the grid in much its current form must exist, and that most of the costs are sunk and fixed. Grid owners have every incentive to foster and reinforce this view, since their profitability depends upon maintaining and growing the asset base. As a consequence, when looking at recovery of the “Residual”, Ofgem assumes that a saving made by one consumer must be reflected by an increased cost for another consumer. While this is true in the short term, in essence Ofgem is looking only at short run marginal costs (SRMC) in a system that is too large, and consequently at marginal costs that are close to zero. This sends the wrong signal for investment in embedded generation, storage and energy efficiency, and also sends the wrong signal for long term investment in and replacement of grid assets.

Locational Charging and avoided cost

Ofgem’s analysis appears to assume that the locational charging element of Transmission Use of System (TNUoS) charging reflects the cost of having generation at a particular node. This is not correct. The locational charge reflects the difference in the LRMC of the system of having generation or demand at different locations. It is not the total cost of having additional generation or demand at that location, but the difference in cost of building at different points on the existing system. It is expressed as a range from negative to positive in order to be revenue neutral, but could equally be expressed as a positive range starting at zero and measured from the least cost node. Logically, the locational effect cannot give rise to negative costs.

Level playing field

Ofgem has defined the creation of a level playing field solely as a comparison between small embedded generation and grid connected generation. This is drawn too narrowly. There are two aspects.

First a unit of demand reduction should have the same effect as a unit of distributed generation. Both embedded generation and demand reduction should benefit from the long term cost savings that are created by avoiding the use of the transmission and distribution systems. The combination of the minded to decision on CUSC modifications and a targeted charging review looking only at the "Residual" as currently defined runs the risk of reducing competition or introducing new biases:

1. Potentially creating an advantageous position for generation behind the meter compared to other embedded generation.
2. Potentially creating a bias to reduce or shift consumption away from Triad periods rather than operate embedded generation. This increases the existing bias in favour of demand reduction that is created by the ability to avoid policy costs, such as the costs of renewable support or the future costs of the Capacity Mechanism.
3. Potentially creating a bias in favour of investment in energy storage located behind the meter.
4. Offshore wind is heavily subsidised through transmission charging. Ofgem's own assessment is that in 2021 this hidden subsidy will add approximately £22/kW to the Triad value. There is the potent to make even worse the competitive position of onshore wind compared to offshore wind.
5. Potentially further enhancing the competitive position of energy imported over interconnectors, which already avoids transmission charges and the carbon floor price.

Secondly, it ignores the differences in the costs created by small embedded plant and large grid connected plant and also the levels of income available to them. For example, National Grid must hold reserve related to the size of the largest expected loss. These costs are not paid by the grid connected generators that create them. In this respect small dispatchable plant is the solution rather than the problem. Further, smaller plant does not have full access to the wholesale markets and ancillary service markets. They must usually contract with an aggregator. This increases costs and reduces revenue. There are also other disadvantages for embedded generation: for example, embedded plant pays policy costs, such as the cost of support for renewables, and full distribution charges on its station load.

There should not be an expectation that grid connected and embedded generators have the same flows of income and cost. There are cost differences that should be reflected. Ultimately, if all demand was balanced by embedded generation within distribution systems there would be no need for the high voltage grid! These potential cost saving should be available to embedded generation, demand reduction and embedded storage.

<u>Consumer Costs</u>

In looking at consumer costs, Ofgem assumes that a saving made by one consumer must be reflected by an increased cost for another consumer. In essence it is looking only at very short run marginal costs. In a charging system where National Grid is guaranteed a level of income irrespective of consumer demand, a saving made by one consumer will result in an increased cost for another consumer in that year. This is true even if the cost saving is reflective of long term costs. This is an unfortunate but necessary precondition of cost saving innovation. Ultimately, the grid needs to be designed and sized around the requirements of modern consumers. Preventing cost saving innovation, such as embedded generation, demand reduction or storage, is not consistent with CUSC objectives (a) or (c) or Ofgem’s wider duties.

In an industry like electricity generation with long asset lives and high capital costs, it is always possible to reduce costs to consumers in the short term by introducing rules, such as WACM4, that expropriate capital from existing assets. It has been one of the major strengths of regulation in the UK that regulators have previously taken the view that such expropriation is not in the long term interest of consumers.

Introducing new rules that will, within a few years, effectively destroy the value of equity in recently constructed embedded generators and embedded storage, which do not have access to a government sponsored CFD or ROCs, and undermine investments in energy efficiency is bound to have an impact on the cost of capital and increase costs to consumers.

Consultation Questions

CHAPTER 2

Questions 1, 2 and 3

The value of "Residual" costs, particularly those charged on peak demand for transmission, have increased significantly in recent years, and it seems unlikely that the forecast levels of these payments are matched by cost savings to the National Grid. Since these charges are higher than they should be, it creates an undue incentive to avoid use of the grid. Some consumers will choose to invest to avoid the costs while others will not, which will have distributive effects. The harm occurs not because of the distributive effects but because the charges are higher than they should be. We would agree that this is an issue that needs to be addressed in a fundamental review of transmission charging rather than in a targeted review of the means of charging for the "Residual". The "Residual" needs to be split to identify those elements that relate to the Long Run Marginal Costs related to peak load and true residual costs.

Action is required so that the correct signals are given for investment.

Since Ofgem does not have the information about the true level of residual system costs, it would be inappropriate to take action before the fundamental review is completed.

CHAPTER 4

Questions 4 & 5

Once the costs that are currently allocated to the "Residual" have been split between those that are in fact related to peak demand and those that are truly residual, each element can be treated appropriately.

For the true residual element a fixed charge by customer class or connection size could be appropriate. There is also a case for using gross consumption to recover these costs, although that is in practice very difficult without smart metering in every home.

CHAPTER 5

Question 6

We agree with the principles for assessing options for charging the residual costs. However, we would note that these are appropriate for the true residual costs, not the costs that are currently included in the "Residual" (see key points above). The amount included in the residual costs will be fundamental in decisions on the fairness, proportionality, practicality and distributional effects of any proposed change.

CHAPTER 6

Question 7

Provided that the transmission residual costs are properly identified, then it is probably appropriate for the costs to be paid by consumers. If a fixed charge is allocated to all generators that will simply increase the price that generators will require in order to be connected to the system. The costs charged to generators might be recovered through ancillary services contracts, the capacity mechanism, or support mechanisms such as CFDs. Ultimately these costs will be paid by consumers. To the extent that the charges are volatile and there is a possibility of non-recovery, then charging generators would probably increase the cost of capital and increase the overall cost to consumers.

Question 8

Provided that the distribution residual costs are properly identified, then it is probably appropriate for the costs to be paid by consumers. If a fixed charge is allocated to all generators that will simply increase the price that generators will require in order to be connected to the system. The costs charged to generators might be recovered through ancillary services contracts, the capacity mechanism, or support mechanisms such as CFDs. Ultimately these costs will be paid by consumers. To the extent that the charges are volatile and there is a possibility of non-recovery, then charging generators would probably increase the cost of capital and increase the overall cost to consumers.

Questions 9, 10 & 11

Ofgem's principles and objectives are to some extent mutually exclusive and matters will rarely be straightforward. A fixed charge may be the least distorting, practical and simple, but a charge based on gross demand may be considered to be fairer to small users. However, where a user has back up generation and uses it when supply is interrupted by a system fault, it would be difficult to make the case that charging on the basis of gross demand for this period is fair in these circumstances. There are arguments in favour of all of the approaches and none should be excluded prior to completion of a fundamental review of charging.

There should be an overriding principle that users do not get charged for a service that they do not use.

CHAPTER 7

Questions 12, 13, 14, & 15

Embedded benefits should be reviewed as part of a fundamental review of charging. That should include a review of BSUoS charging.

The review needs to be wider than is currently suggested for the SCR. The review needs to ensure that true long run costs are identified and that these are paid by the party responsible for those costs. That would include a charge related to peak demand, as this still is a major driver of long term costs, and a charge is needed to give correct investment signals to customers, storage and generation.

To the extent that costs cannot in practice be allocated, then residual charges are appropriate.

There are many reasons why a level playing field does not mean embedded generators facing the same charges as transmission connected generators. For example, National Grid must hold reserve related to the size of the largest expected loss. These costs are not paid by the grid connected generators that create them. In this respect small dispatchable plant is the solution rather than the problem, providing much needed stability. Another example is domestic CHP, which may reduce balancing costs by operating at times when demand would be driven higher by low temperatures. On the other hand, the correlation of the output of the solar fleet or wind generation may increase balancing costs.

Cost differences embedded and transmission connected generation should be reflected. Ultimately, if all demand was balanced by embedded generation within distribution systems there would be no need for the high voltage grid! The potential long term cost saving should be available to the embedded generation, demand reduction and embedded storage that create them.

Smaller plant are disadvantaged because they do not have full access to the wholesale markets and ancillary service markets. They must usually contract with an aggregator. This increases costs and reduces revenue. There are also other examples of disadvantages to embedded generation: embedded plant pays policy costs, such as the cost of support for renewables, and full distribution charges on its station load. It also pays the full costs of reinforcement on the distribution system when it connects.

It should be a principle that parties should only pay for the services that they use. It has been suggested that embedded generators might pay BSUoS charges despite not utilising the grid. The only justification for this is that embedded generators increase the need for balancing, despite the fact that having large numbers of smaller dispatchable plant probably reduces balancing costs. More valid would be an argument that transmission connected generation should pay the costs of the distribution system since that is the delivery mechanism to the customers of those generators.

CHAPTER 8

Question 16, 17, 18 & 19

The treatment of storage depends upon its purpose.

1. Storage that is used by customers to shift demand between time periods should be treated as demand.
2. Storage that is used solely for system support and ancillary services provision should be treated as generation and power consumed treated as station load.
3. There will be grey areas where storage is used for both purposes. Care must be taken not to create loopholes to avoid demand charges. An obvious example is an electric vehicle which also provides balancing services through an aggregator. Most of the power going into the storage (car battery) will be used to power the car. Occasionally, some of that power will temporarily be fed back to the grid. The vehicle owner should not be able to avoid demand charges simply because the vehicle has a secondary purpose providing an ancillary service.

If Ofgem uses the word storage to mean that which is used solely for system support, and located at a facility where any difference between the amount of power put into the storage and the amount of power returned to the grid is no greater than the amount required efficiently to operate the storage facility, we would agree that storage should be treated as generation and would not pay demand charges. Given the complexity, dealing with this solely through code modifications may not be appropriate.

CHAPTER 9

Question 20

We cannot comment in detail about the potential make up of a Charging Coordination Group. On one hand the group could be made up of senior representatives of all stakeholders that could mobilise resources outside of the group and agree a way forward based on the briefing received. Alternatively, the group could be made up of experts able to understand the complex interactions.

In neither case should the group be dominated by transmission and distribution owners.

Our preference would be for an independent chair.

Questions 21 & 22

We do not agree with the delivery model and the proposed scope. As we have noted above there are fundamental problems with the calculation of forward looking costs that are loading large sums into the residual. The size of the residual will impact on the practicality and distributional aspects of any proposed change in the charging methodology.

The matters being considered are too important to be rushed. Not least, because a botched process could result in bankruptcy for many small companies. A fundamental review looking holistically at all aspects of charging is required.