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Getting more out of our electricity networks by reforming access and forward-looking charging arrangements- RWE Response

Dear John,

RWE welcomes the opportunity to respond to the Ofgem consultation on "Getting more out of our electricity networks by reforming access and forward-looking charging arrangements" published on 23rd July 2018 (the Consultation Document). We are responding on behalf of RWE Supply and Trading GmbH and RWE Generation plc. This is a non-confidential response.

The "radical transformation" of the electricity system referred to in the Consultation Document is having a lasting and profound effect on the electricity networks. It is changing the mix of users and the temporal use of the system. New users either connected to or seeking connection to existing networks are creating a significant administrative burden for the transmission and distribution companies. The transformation has important implications for network investment, it drives new capacity requirements at different locations (especially at lower voltage) and it impacts on the operation of networks (particularly the management of constraints).

Nevertheless the fundamental relationship between users and network companies remains essentially constant: users are connected to the total system and export from or import to the networks at different times. In addition network companies must ensure that they can finance their businesses through the charging regime. In this context there are essentially three different sets or arrangements which must be considered together. These are:

- The Long Run Marginal Cost (LRMC) of the network related to the incremental costs of network investment in different locations and reflected on users in terms of locational LRMC-derived tariffs;
- The Short Run Marginal Costs (SRMC) of the network related to the operational costs of managing the system and resolving constraints; and

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- Residual costs which are the charges required to recover the allowed revenue under the price control regime.

These elements are the building blocks for the derivation of electricity tariffs and underpin the current review of charging regime.

The Consultation Document refers to a number of changes that are designed to improve the way in which charges are derived and applied. We welcome the emphasis on ensuring a level playing field between transmission and distribution, with a particular focus on delivering improvements to the distribution network charging regime. There are also important lessons to be learnt from the approach adopted to the transmission charging regime which separates transmission owner charges from operational charges. The underlying objectives for the review of the charging regime should therefore include:

- Improving the way in which locational signals are provided at lower voltages (including at the domestic level) in the distribution network based on LRMC principles;
- Developing mechanisms that would enable more effective management of the networks including capacity sharing, local balancing to manage constraints and avoid curtailment, non-firm access; and
- Creating consistent connection arrangements between transmission and distribution.

A number of related issues must be considered as part of the review of network charges. This includes but is not limited to:

- The role of assets “behind the meter” particularly in relation to the provision of balancing services and their treatment in the charging regime;
- The price control arrangements and the investment plans of the network companies where there may be a case that certain costs to be incurred to facilitate the transformation of the electricity system will need to be recovered through the charging regime;
- The arrangements that may be required to facilitate the provision of fast or slow charging points for electric vehicles at certain locations in the electricity networks; and
- Delivering an efficient trade-off between network investment and constraint management, which should be reflected appropriately in electricity charges (for example some short run operating costs may be related to avoided investment by the transmission owner).

We look forward to working with Ofgem, the ESO and the DNOs in the development of the charging regime. Our detailed comments on the questions in the Consultation Document are included in Annex 1 to this letter. If you have any comments or wish to discuss the issues raised in this letter then please do not hesitate to contact me.

Yours faithfully

By email

Bill Reed
Market Development Manager

Annex 1: Response to the questions in the Consultation Document

Question 1: Do you agree with the case for change as set out in chapter 2? Please give reasons for your response, and include evidence to support this where possible.

We agree with the case for change as set out in Chapter 2 of the Consultation Document. The increasing deployment of low carbon technologies on local networks will have significant implications for network investment and operation. It is essential that the charging arrangements are suitably flexible to adapt to the increasing challenges.

The review of electricity charging may need to encompass the electricity trading and settlement arrangements since the imports and exports of small scale technologies may have significant implications in relation to investment and operation of electricity networks. Many facilities embedded on sites operate “behind” the boundary point meter. In addition, Balancing Service Providers (BSPs) may operate, dispatch and control these assets (such as batteries at solar farms or electricity vehicles) with implications for network operation and investment.

Network operators may need to provide appropriate locational signals (for investment) and access arrangements (for dispatch) for “behind the meter” facilities. Enhanced visibility of such facilities through the connection and settlement (Balancing and Settlement Code) arrangements will facilitate the development of appropriate cost reflective network charging arrangements for sites where Balancing Service Providers (BSP) are providing services from specific assets.

Any review of the charging arrangements must therefore extend beyond the traditional network connected assets to consider assets that are connected and operated “behind the meter”.

Question 2: Do you agree with our proposal that access rights should be reviewed, with the aim to improve their definition and choice? Please provide reasons for your response and, where possible, evidence to support your views.

We agree that there is a case for the review of access rights associated with connections to distribution networks. We agree with the conclusion that access rights for larger generators are well defined in bilateral connection agreements with the Electricity System Operator (ESO).

For those users with explicit access rights there is a case that new options could be created that enable users to better reflect their anticipated use of the network. This could include, for example, opportunities to reduce firm capacity holdings provided that non-firm products are available.

For those users with implicit access rights in existing connection agreements, there could be an opportunity to establish firm rights which are similar to those associated with existing large users. This particularly applies to users who are not currently subject to curtailment arrangements.

For users with access rights that are subject to curtailment there could be an opportunity to obtain firm rights subject to the necessary investment in network assets. Alternatively, the introduction of financially firm access rights would enable all users at a location to signal the costs of curtailment to the network operator. This may also require the creation of “local balancing markets” for the purpose of managing constraints.

For users where access rights are currently poorly defined, new arrangements are required that enable explicit access rights to be obtained. This could include connections associated with electricity vehicle charging points or batteries co-located with solar panels where new explicit import and export rights may be needed

Question 3: Specifically, do you have views on whether options should be developed in the following areas as part of a review? Please give reasons for your response, and where possible, please provide evidence to support your views:

a) Establishing a clear access limit for small users, with greater choice of options (as considered under b) and c) below) above a core threshold – do you agree with our proposal in paragraphs 3.5-3.10 that this should be considered? Do you have views on how a core threshold could be set?

The nature of access rights for existing "small users" requires review. Users should have the option of opting for firm rights where they currently have a connection with the relevant network and do not already have clearly defined firm rights.

The issues associated with the definition of "*core*" and "*non-core*" activities relates to the nature of the activities at the customer's premises connected to the relevant network. There are number of ways in which core or non-core activities could be defined in relation to a specific connection. These include

- a connection may relate to domestic premises where "domestic" usage is the sole activity. Such usage could comprise defined **core activities** associated with domestic usage include heating, lighting and use of domestic appliances;
- a connection may include domestic or commercial usage and additional usage such as charging an electric vehicle. Where such additional usage occurs then this could be described as **additional non-core activities** provided that such activities are transparent and separately measured. Domestic or commercial premises could be subject to different charging arrangements at the relevant connection that reflect core and non-core usage;
- a connection may include domestic or commercial premises which have specific assets (e.g. solar panels) that relate to a non-core activity. These **additional non-core assets** could be charged separately provided that they can be separately identified and measured; and
- a connection may include activities that are measured, controlled and dispatched independently of the remaining load at a site with the capability to provide a balancing service (again an electricity vehicle charging point utilised to provide balancing services could be such an activity in this context). These **additional "*balancing services*" non-core assets** could be subject to a separate charging arrangement (such as providing bid/offer information to the network operator).

Clearly much greater information on core activities and additional non-core activities connected to electricity networks is required to facilitate the separate charging of such usage. This could be achieved by

- changes to the terms of the national conditions of connection which could require greater information disclosure to network companies on non-core activities at a connection point (e.g. require customers to notify the connection of electric vehicle charges or solar panels); or
- incentives through the charging regime that encourage the disclosure of non-core activities such as discounts where such activities are capable of helping the system (for example premises could be subject to an incentive to avoid "peak" periods); or
- deployment of new "smart" technologies that enable the measurement of non-core activities separately from core activities together which charges that better reflect usage of the network for those non-core activities; or
- commercial incentives for non-core activities through, for example, the provision of balancing services to DSOs, potentially through aggregation (in a manner consistent with

the EBGL) and specific metering that enable separate network charges to apply to these activities.

Any new site where core activities are explicitly recognised separately from non-core and activities would also require the following:

- Demonstration that the non-core activities are capable of control or dispatch independently of the remaining “core” site load;
- Metering that enables the non-core activities to be measured separately from the site load (consistent with the BSC);
- Settlement which allows for the core and non-core activities to be settled separately, particularly where the non-core assets are capable of providing balancing services; and
- Imbalance adjustments for the relevant boundary point meter and supplier where “non-core” assets provide balancing services to the relevant network operator.

b) Firm/non-firm and time-profiled access – do you agree with our proposal outlined in paragraphs 3.15-3.21 that these options should be developed?

We agree that options for firm/non-firm and time profiled access rights should be developed.

The introduction of non-firm access rights would be beneficial for all users of the transmission and distribution networks since it would allow parties to optimise firm capacity holdings. The definition of firm and non-firm should be consistent across both the transmission and distribution networks, and associated with a consistent definition of connection assets.

Time profiled capacity arrangements requires detailed consideration and is related to the drivers of investment and operating costs for the relevant network. The network security standards should allow for diversity in connections. Therefore it is not clear whether time profiling capacity holdings delivers any savings in terms of network investment.

Network security standards should be developed to take into account the correlation between operation of fossil plant and operation of intermittent when determining the required network capacity at any location and voltage.

c) Duration and depth of access, discussed in paragraph 3.25-3.32 - would these options be feasible and beneficial?

It is difficult to determine whether there is any value in defining the duration of access rights for users beyond one year under the current arrangements where such capacity is only subject to a one year tariff horizon.

There may be a case for specifying the duration of rights if there was greater certainty over the duration and durability of electricity tariffs. However, if tariffs are locked in for more than one year, this creates issues for network companies who must forecast the cost drivers (e.g. new connections, retirements and demand) as accurately as possible. Consequently reducing the risk for users may increase the risk for network companies, and increase the likelihood of significant tariff adjustments at the end of the fixed tariff period. Further work is required to consider these issues.

Access rights are currently defined as the ability to access the total system (distribution and transmission) at the boundary point. Users cannot specify any limitation of these rights in terms of depth of access and it would not be helpful to do so.

All users have access to the GB energy market by being connected to the total system at a boundary point. As such they are in a position to trade energy with any other counterparty authorised to do so (typically as a “trading party” under the Balancing and Settlement Code ((BSC)). Introduction of limited shallow or local access rights would inhibit the trading of power under the BSC, require local settlement arrangements (through market splitting) and require the creation of local markets which would fragment the GB trading arrangements (and is inconsistent with the BSC, EU Networks Codes such as the Electricity Balancing Guidelines). Therefore limited local or shallow access rights are not feasible or desirable.

d) At transmission or distribution in particular, or are both equally important – as discussed in this chapter?

The new changing arrangements should be consistently applied across both the transmission and distribution networks. In this context both are equally important in ensuring that the arrangements remove the current charging distortions that occur between the different networks.

Question 4: Do you agree with the key links between access and charging we have identified in table 1? Why or why not? Do you think there are other key links we have not identified? Where possible, please provide evidence to support your views.

We agree with the key links between access and charging identified in Table 1. In fact the charging regime and the access regime go hand in hand and must work together in a way that produces consistent and economically efficient outcomes.

It is also important that the interaction between the charging regime and the wider energy market is taken into account. This is particularly relevant in relation to time profiled access rights or tariffs. It is essential that time profiled rights or tariffs reflect the underlying network cost drivers and do not relate to wider energy market incentives such as reducing demand in general at the peak in response to wholesale market signals. This has been highlighted in the current debate on TNUoS Triad charges which significantly distort the energy market at the peak through triad avoidance.

As noted above all users have access to the GB energy market by being connected to the total system at a boundary point. As such they are in a position to trade energy with any other counterparty authorised to do so (typically as a “trading party” under the Balancing and Settlement Code ((BSC)). Introduction of limited shallow or local access rights would inhibit the trading of power under the BSC, require local settlement arrangements (through market splitting) and require the creation of local markets which would fragment the GB trading arrangements (and is inconsistent with the BSC, EU Networks Codes such as the Electricity Balancing Guidelines).

Question 5: Do you agree with our proposal that targeted areas of allocation of access should be reviewed? Please give any specific views on the areas below, together with reasons for your response. Where possible, please provide evidence to support your views:

a) Improved queue management as the priority area for improving initial allocation of access, as outlined in paragraphs 3.41-3.44?

We agree with the proposal that improved queue management is considered as part of the review of access arrangements. This is associated with a consistent approach towards user commitment for parties seeking connection to the transmission and distribution networks.

In the context of queue management, auctions do not provide an economically efficient solution to the local problems associated with users seeking connection to the networks. In fact auctions may significantly increase the potential for local market power and local distortions of the connection arrangements where there is insufficient competition. In addition, the nature of the connection arrangements means that there may be a number of local solutions required for network investment which is efficiently managed by the network companies.

b) Not to consider the potential role of auctions for initial allocation of access as part of a review at this time, as discussed in paragraph 3.44?

We agree with the conclusion that the review should not consider universal auctions for the initial allocation of access rights. Experience in the gas market together with deliberations on various CUSC mods suggest that auctions for network access may have significant limitations which are difficult to overcome.

c) To review the areas outlined in paragraphs 3.45-3.48 to support re-allocation of access?

We agree that the re-allocation of access should form part of the review process, particularly in relation to constrained areas of distribution networks. Effective exchange of capacity from existing users to new users would facilitate new entry and efficient use of existing network assets, with the particular example of diurnal use of capacity associated with solar/non solar assets where it is commercially attractive to do so. However, these are essentially local solutions to capacity constraints. In addition it is difficult to deliver wider capacity exchange since a MW of capacity in one location is not always equivalent to a MW of capacity in another location on a network.

We support the development of provisions that will ensure efficient allocation of capacity for users seeking connection to the networks. This could involve reallocation of capacity in the event that projects do not proceed as planned to enable efficient investment decisions.

We do not at this stage support the introduction of “use it or lose it” provisions related to firm access provisions (once connected to the system) without wider consideration of non-firm access arrangements. Users currently commit to a level of access and an associated liability to pay the relevant network charge.

Introduction of use it or lose provisions related to firm access could inhibit the provision of committed capacity into the energy market, result in inefficient dispatch and interact detrimentally with the capacity market, where firm access is a condition of participation.

Question 6: Do you agree that a comprehensive review of forward-looking DUoS charging methodologies, as outlined in paragraphs 4.3-4.7, should be undertaken? Please provide reasons for your response and, where possible, evidence to support your position.

We agree that a comprehensive review of forward-looking DUoS charging methodologies, as outlined in paragraphs 4.3-4.7, should be undertaken. The current DUoS methodology is difficult to understand and the LRMC locational signals are distorted by the application of various factors that are applied to ensure revenue recovery.

An explicit model that produces appropriate LRMC based tariffs should be the starting point for locational distribution tariffs. In addition a consistent approach between distribution and transmission modelling should be adopted for network modelling. This could include an approach where the transmission system and higher voltages of the distribution system are modelled together to provide consistent locational signals. For example, voltages at 132kV and above could be modelled together and appropriate LRMC charges applied for users connected to these voltages. The model could be extended to other distribution voltages, subject to ensuring that it is feasible to achieve efficient outcomes this in terms of practicality and efficiency.

Associated with consistent network modelling is the approach towards ensuring revenue recovery for both distribution and transmission. This should mean that the scaling of LRMC network tariffs to ensure revenue recovery for distribution tariffs is no longer applied.

At lower voltages, the approach should be based on identifying the key cost drivers and applying these in a way that reflects the incremental costs of investment at these voltages. This could include a generic approach to asset costs and zonal modelling that broadly reflects the type of users connected to the network. This approach could be aligned with the “profile class” associated with existing users and the development of additional customer categories based on smart meter deployment.

It would be expected that broadly cost reflective locational tariffs would not recover total distribution network costs. Consequently a fair, proportionate, non-discriminatory and non-distortive residual adjustment would be required to ensure revenue recovery.

It may be possible to differentiate between locational tariffs that are associated with “core” usage of the network and different locational tariffs that are associated with “non-core” usage. This could mean that a different network tariff is applied to load that is not controllable where it can be separated from load that is controllable (e.g. electricity vehicle chargers). For controllable load it may be possible to provide an LRMC based approach which generically reflects the incremental costs of connecting controllable equipment to the networks.

Tariffs could provide greater granularity of signals if they reflect network investment drivers separate from operational cost drivers. Peak charges may be introduced if system peak drives investment with credits if delivering energy rather than off taking at the peak where this is reflective of reduced network investment costs. Year round costs at the distribution level could also be introduced where this is an important cost driver.

We support the move to “capacity” based charging arrangements. Capacity charges better reflect the investment drivers for networks since they better represent incremental LRMC across the network may vary by location and have a limited distortive effect on energy and capacity markets. Greater granularity of capacity charges (e.g. by location or into settlement periods) may enable users to better reflect their expected use of the network, where this is appropriate in relation to operating costs. Note that users with capacity contracts require firm long term access capacity.

Question 7: Do you agree that the distribution connection charging boundary should be reviewed, but not the transmission connection boundary? Please provide reasons for your response and, where possible, evidence to support your position.

We agree that the distribution connection boundary should be reviewed but not the transmission connection boundary. We support the move towards a consistent approach towards connection boundaries that removes the current distortions that occur between the different network voltages.

A move towards a “shallow” connection boundary at the distribution level would be helpful in delivering more low carbon technologies to the GB electricity market. A shallow connection boundary may also address issues associated with connection queues at the distribution level. However, such an approach may have the consequence of increasing constraint costs. Therefore, in moving towards a shallow connection boundary it is essential that the network operators have sufficient tools to manage effectively any resultant constraints that may occur and that there is sufficient user commitment prior to connection.

Question 8: Do you agree that the basis of forward-looking TNUoS charging should be reviewed in targeted areas? If you have views on whether we should review the following specific areas please also provide these:

a) Do you agree that forward-looking TNUoS charges for small distributed generation (DG) should be reviewed, as outlined in paragraphs 4.19-4.23?

We agree that forward looking TNUoS charges for small distributed generation should form part of the review.

In this context it is essential that there are consistent signals for generation at the boundary point and behind the meter. We are concerned that distortions may arise if the network charging regime creates an excessive incentive to invest in new facilities “behind the settlement meter”

b) Do you consider that forward-looking TNUoS charges for demand should be reviewed, as outlined in paragraphs 4.24-4.27? Please provide reasons for your response and, where possible, evidence to support your position.

We support a review of forward looking TNUoS charges for demand. We note that the focus is on the Triad charges for demand customers and the incentive for behind the meter generation.

We raised modification proposal CMP271 to address some of the issues associated with the cost reflectivity of demand TNUoS charges. The modification proposal makes the case for a dual charging regime for demand locational TNUoS charges based on a split into peak and year round charges since they better reflect the underlying costs drivers in the NETSSQSS. The review of demand TNUoS charges should therefore consider the issues raised under CMP271.

CMP271 helps to level the playing field between location demand TNUoS and Generation TNUoS, which already has a dual charging regime (peak and year round).

Question 9: Do you agree that a broader review of forward-looking TNUoS charges, or the socialisation of Connect and Manage costs through BSUoS at this time, should not be prioritised for review? Please provide reasons for your response and, where possible, evidence to support your position.

We agree that a broader review of forward-looking TNUoS charges should not be prioritised at this time. Forward looking TNUoS charges were reviewed recently as part of Project Transmit and CMP213.

We also agree that the socialisation of Connect and Manage costs through BSUoS should not be prioritised for review. The connect and manage regime has worked well in terms of new connections for low carbon technologies. In addition, any review would require a reconsideration of Government policy in this area. Given other priorities it would be difficult to engage with the Government on this issue at this time.

Question 10: Do you agree that there would be value in further work in assessing options to make BSUoS more cost-reflective, and if so, that an ESO-led industry taskforce would be the best way to take this forward?

We agree that there would be value in further work assessing options to make BSUoS more cost-reflective and that an industry working group under CUSC governance with support from the ESO would be the best way to take this forward.

The scope of this review should as a minimum include the non-connect and manage constraint costs and whether there is a case for more a more cost reflective approach. There are a number of other issues that could be included in this review including:

- The nature of constraints that occur as part of the normal operation of the network and how they are reflected in BSUoS charges;
- BSUoS charges for users with non-firm rights;
- The charging base for BSUoS;
- The possibility of fixed price BSUoS across relevant charging periods; and
- The development of efficient BSUoS charging arrangements for incurring ongoing constraint costs as an alternative to investment. (This may be particularly relevant at distribution voltages where there is already significant curtailment of generation output).

Question 11: What are your views on whether Ofgem or the industry should lead the review of different areas? Please specify which of SCR scope options A-C you favour, or describe your alternative proposal if applicable. Please give reasons for your view.

We support a narrow SCR under Option A lead by Ofgem. It is essential that the areas covered by the SCR are addressed in a holistic and coordinated manner.

A narrow review would facilitate a focus on specific problems that Ofgem has identified with the current charging regime. It would also enable industry led change for those areas of the charging regime that fall outside the scope of the narrow review.

We do not believe that a review of access rights for transmission connected users should be included within the scope of any review. However, there are merits in ensuring that there is a level playing field between all users of the electricity networks. To the extent that this needs to be

addressed then we would expect that specific proposals would be put for by existing market participants to address the issues that are identified outside the SCR.

Question 12: Do you agree with our proposal to launch an 'Option 1' SCR for areas of review that we lead on? Please give reasons for your view.

We agree with the proposal to launch an 'Option 1' SCR for areas of review that Ofgem lead. We expect that the SCR will result in a specific set of initiatives which can be delivered through modifications to the existing arrangements. It is appropriate that once the broad direction of travel has been established the industry as a whole is involved in the process to deliver the relevant changes.

Question 13: Do you agree with the introduction of a licence condition on the basis described in paragraphs 5.11 and 5.12 and Appendix 5? Why or why not? Do you have any comments on the key elements set out in table 7 of Appendix 5a, or consider there are any other key elements which should be included? Please give reasons for your view.

We do not support the introduction of a new licence conditions on the network companies with respect to a wide review of the charging regime. Such an approach is simply not required and seems excessively heavy handed.

Electricity licensees have an obligation to address defects in the current charging regime. We would expect that where such defects are identified either as a result of the existing review or as part of the SCR process then the industry including the ESO and DNOs would have due regard to such defects and raise appropriate modification proposals.

Question 14: Do you have any comments on the draft wording of the outline licence condition included at Appendix 5b? Please give reasons for your view.

We have no comment on the draft wording of the outline licence condition included at Appendix 5b. Such a licence condition is not needed given the obligations on parties to address defects identified in the existing regime.

Question 15: What are your views on our indicative timelines? Do you foresee any potential challenges to, or implications of, the proposed timelines and how could these be mitigated?

We note that the proposed review timeline will deliver potential changes to the existing regime from April 2022. Given the scale and magnitude of the possible changes together with the complexity in implementing such changes the timescales appear reasonable.

Question 16: What are your views on our proposals for coordinating and engaging stakeholders in this work?

We support the proposals for coordinating and engaging stakeholders in delivering the proposed changes to the charging regime. The scale and expect of the changes will require considerable commitment from users and it is essential that the relevant expertise if deployed effectively.

There is a case that the users should have a greater role in the coordination of the proposed arrangements, while noting that this would require a considerable commitment given that they are not funded under a price control regime. It may be appropriate to consider whether there should be funding available to ensure the support required from the change process where this is appropriate.