

By email to: NetworkAccessReform@ofgem.gov.uk

Jon Parker
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Dear Jon,

RE: 'Getting more out of our electricity networks by reforming access and forward-looking charging arrangements – Consultation'

ELEXON welcomes the opportunity to respond to your consultation. The work Ofgem and industry are doing to review and reform access and forward looking charges is a substantial piece of work, which touches on a variety of related initiatives.

In accordance with the Balancing and Settlement Code (BSC), BSC Parties and ELEXON ensure that metered data is collected and aggregated in order to perform imbalance settlement. Because the BSC clearly sets out the rules for collecting, aggregating and assuring Settlement Data, it is used to support a variety of other industry arrangements, including the calculation of Balancing Services Use of System (BSUoS) charges and both transmission use of system (TNUOS) and distribution use of system (DUoS) network charges.

ELEXON is committed to supporting Ofgem's work to transition to a smart and flexible energy system. We are active members of the Charging Delivery Board and regularly attend the Charging Futures Forum. In addition we contribute to related initiatives, for example Ofgem's Significant Code Review on Electricity Settlement Reform (leading on Half hourly settlement design), Ofgem's review of Future Supply Market arrangements (our whitepaper on [multiple energy providers](#)), the ENA's Open Networks Project and clarifying the regulatory arrangements for storage.

ELEXON believes we must all in the energy community collaborate to find practical and timely whole-system solutions. We believe that this will be better achieved by simplifying and consolidating the existing industry arrangements, and where appropriate taking advantage of/or modifying existing systems and processes.

In this regard, we believe that the BSC and its central systems can effectively support Ofgem's work to reform network charges. This could be by using existing Settlement Data and BSC systems or by changing what and how BSC systems collect, transform and report metered data. One example is the future market design of half hourly settlement, which has the potential to provide significant flexibility in the provision of metered data to calculate network charges. Furthermore, ELEXON is upgrading the BSC central systems so they remain future-enabled ('the Foundation Programme'). Our work will ensure the BSC systems remain cost effective, flexible, scalable and responsive to the wide range and scale of changes being driven forward by the transition to smarter and flexible energy systems, such as your reform here.

The views expressed in this response are those of ELEXON Ltd alone, and do not seek to represent those of the BSC Panel or Parties to the BSC

Our main response to your consultation is attached in Appendix 1. If you would like to discuss our response further, please contact me on 020 7380 4007 or at nicholas.rubin@elexon.co.uk.

Yours sincerely,

Nicholas Rubin
Market Architect

List of enclosures:

Appendix 1 – ELEXON's Response

APPENDIX 1 – ELEXON’S RESPONSE

Our response is in two parts: a general response and dedicated answers to questions in your consultation.

ELEXON’s general response

Coordination, collaboration and consolidation

Ofgem is considering considerable changes to the network charging arrangements. Experience suggests that making fundamental changes to the industry arrangements requires careful collaboration and coordination. This is because there is often an interrelationship between different parts of the industry arrangements.

Your consultation asks whether Ofgem should focus on targeted areas of change, rather than all areas. There is a risk that by focusing only on targeted aspects of future access and forward looking charging arrangements, Ofgem and industry may not identify in a timely manner important relationships between those targeted parts and the wider, non-targeted parts. This may frustrate the design and delivery of new arrangements, for example:

- Where two areas of review are progressed at different times and the area running behind the first identifies important issues that the first area should (have) incorporated, for example near term market changes such as CUSC Modifications CMP280/1;
- where industry-led design requires information on or direction from Ofgem-led design, in-between Ofgem policy documents and decisions, such as other interacting initiatives, including HHS, Future Supply Market arrangements, ENA’s Open Networks, possibly even National Grid’s SNAPS; or
- where industry-led design requires information on or direction from Ofgem, which may be unable to provide direction during the design and assessment of a code modification it will ultimately be asked to assess.

This does not mean we believe that Ofgem should design, in detail, all aspects of future network charging arrangements. Rather we believe that Ofgem should set out its overall vision, outcomes and principles for how these arrangements should work and interact, and provide a clear framework for coordinating and adapting to design issues. Industry can then develop specific, technical and commercial arrangements that deliver this overall vision.

In addition, we envisage that by coordinating the overall design of future network charging arrangements, this should better facilitate the efficient scheduling and delivery of changes necessary to implement your recommendations. It is possible that necessary changes to implement your recommendations (and to remove obsolete requirements and systems) affect a range of industry codes (e.g. CUSC, DCUSA, BSC, DTC), related central systems (including billing systems), market participants’ systems (e.g. billing, forecasting, optimisation), contracts between Suppliers and their customers. Ofgem and network companies may also need to allow time to collect data (possibly using new systems or processes) in order to forecast and set charges ahead of them going live. The collection of data would be more efficient if requirements were clear and less likely to be subject to change. Furthermore, a coordinated approach to design and delivery should reduce the number of charge changes and therefore reduce the uncertainty Suppliers and their customers are likely to experience.

Finally, ELEXON implemented approved BSC Modification P362 ‘Electricity Market Sandbox’ at the end of August 2018. [ELEXON’s Sandbox](#) is the first and only industry code sandbox linked to Ofgem’s

sandbox. Using industry code sandboxes, in conjunction with Ofgem's Innovation Link, may be an effective way of trialling new network charging arrangements, e.g. new access allocation or secondary market trading/auctioning. We also note that the completion of a successful trial should speed up the design, assessment and delivery of a subsequent industry code change to make the trial 'business as usual' – i.e. the trial should have already identified key design requirements and provided cost-benefit evidence to support its case for adoption. We will of course support Ofgem, network companies and innovators to identify and develop ideas for trialling new network charging arrangements.

Enduring role for BSC systems

Use of Settlement Data has been an important requirement for distribution and transmission network charging. This is because the BSC provides an established and trusted set of arrangements that ensure the integrity of metered data and transformation of this data for use in a variety of industry processes. Even if considerably reformed, we believe that the BSC and its systems and processes can continue to support network charging, provide a central (not fragmented approach) and enable new approaches that will come out of this review. A single source of the truth enables consistency in how charges for a range of energy services are calculated, i.e. they can all be traced back to the same source data.

Settlement data is produced by using rules to validate and transform raw metered data. Settlement is primarily interested in the amount of electricity produced or consumed (MWh) but these metered volumes are converted to capacity values (e.g. demand and generation capacity, which are used in the calculation of credit cover requirements; and for Triad Gross Demand charging under the CUSC). In addition, the BSC specifies requirements for collecting and sharing reactive power data for distribution charging purposes.

The BSC also ensures that through its Balancing Mechanism Reporting Service (BMRS) a wide range of Balancing Mechanism, Settlement, REMIT and Transparency, and transmission operation data is published online in a central location, accessible to any interested party, whether or not they are a BSC Party. In your consultation you begin to explore the opportunities for allocating and possibly auctioning or trading access. In order for these arrangements to work effectively and efficiently, we'd expect network companies and parties who buy/sell access to share details of the types and costs of access being traded in primary and secondary markets. The BMRS already supports the industry in its publication of BM related activities. We believe there is a strong case, supported by BSC Parties, for centralising the publication of other electricity market related activities, thereby reducing the need to build new central systems and services, and for industry participants to build new interfaces.

The BSC and its systems allow these rules to change so they remain fit for purpose. For example, we have made changes to the BSC and its systems to specifically support changes in the way network charges are calculated (e.g. P300, P339, P348, see our [website](#) for more details).

As part of our Foundation Programme, ELEXON is upgrading the BSC central systems so they remain future-enabled. The programme will ensure the BSC systems remain flexible, scalable and responsive to the wide range and scale of changes being driven forward by the transition to smarter and flexible energy systems. We are implementing the Foundation Programme in stages. The first phase will support the implementation of P344 'Project Terre' in early 2019. We believe the BSC and its systems are and will remain well placed to support Ofgem's plans for reforming network charges.

We're already engaged in solutions that could support, for example through Behind the Meter work (enabling gross charging), Smart Meters/HHS (data can be used to determine max demand for capacity charging), enhanced registration records (to enable more targeted aggregation of metered data, i.e. based on zones within a distribution network).

Answers to consultation questions

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.*

It is clear that the electricity industry is undergoing significant change. This is being driven by decarbonisation, democratisation, digitalisation and decentralisation (the '4Ds'). These factors are both creating new opportunities and challenges for existing and established participants, industry arrangements, technologies and markets.

Whilst the industry arrangements have, in general, successfully handled a large volume of incremental change, they have struggled to effectively adapt to and accommodate the considerable volume and nature of change being driven by the 4Ds. We believe this is in part because the existing arrangements are based on market design principles that have not fundamentally changed in over twenty years and that the industry code arrangements are complex and fragmented (across industry functions and voltages). Without a clear vision, effective coordination and simplification, the industry arrangements exert a regulatory inertia which can make substantive industry change a challenge.

In order to effectively transition to a smarter and more flexible energy system and unlock benefits to consumers, we believe Ofgem is right to lead a review of the overall design of distribution and transmission network charging arrangements.

In general we believe Ofgem is right to prioritise review of the distribution charging arrangements (Priority areas 1 and 2). The greatest amount of change is at the distribution level. The growth in distributed energy is changing the dynamics for market participation and system management. However, whilst there is a clear case for reviewing distribution charging arrangements, we believe Ofgem is right to also focus on the interface between transmission and distribution arrangements (Priority area 3).

We believe that the decentralisation of energy has brought in to clear view how differences between the transmission and distribution arrangements may be driving inefficient outcomes or uneven treatment of otherwise comparable activities. This includes how sites are registered for Settlement purposes, i.e. whether by a supplier (SVA) or independently (CVA).

Recent industry code changes on embedded benefits (e.g. CUSC Modifications CMP264/265) and the treatment of storage (e.g. CUSC Modifications CMP280/281 and DCUSA Modifications DCP319/321) have sought to clarify treatment so generators (and storage providers) are treated more equitably, irrespective of which network they are connected to. The development of these modifications has also shown that there may be a tendency to treat generators with a direct contractual relationship with National Grid ESO differently from those who are registered by a Supplier (i.e. the Supplier has the relationship with National Grid).

We believe that in order for market participants to effectively and fairly participate, the transmission and distribution network charging arrangements need to be refreshed. This is so they share clearer, common design principles that seek to treat comparable activities similarly, irrespective of which network system a site is connected or how the site is registered.

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?

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?

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

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

As noted in our response to question 1, we believe that the transmission and distribution network charging arrangements ought to share clearer and common design principles. With this in mind, we would question the idea that there should be a difference in treatment under distribution and transmission arrangements for comparable activities.

Metered Data collected for Settlement purposes is the primary source data for setting and levying network charges. We believe that Settlement Data should continue to support network charging arrangements, including access charges.

Existing Settlement data is already reported to network companies at HH level and the implementation of Market Wide HHS will considerably reduce the use of profiled non-HH metered data for smaller users. Furthermore, HH Settlement Data is already converted from MWh to MW for Settlement purposes (to determine Generation and Demand Capacities used in the calculation of credit cover) and network charging purposes (e.g. Triad Gross Demand (KW)). We believe the BSC arrangements, especially with HHS arrangements can continue to be used to support network charging in particular if new access charging arrangements are introduced.

As well as reporting base Settlement data, BSC systems can be used to aggregate according to specific rules or to identify and report specific events that can be identified in base Settlement Data (e.g. max demand or exceeding specific thresholds). By centralising the collection, aggregation and transformation of Settlement Data, we would be able to provide an established level of service and assurance, and avoid the need to design new systems/services for each party responsible for setting and levying (and paying) network charges.

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?

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?

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

As noted in our general response above, we believe there is a risk that focusing on targeted areas may mean Ofgem and industry miss important relationships between those targeted parts and the wider, non-targeted parts.

We believe that Ofgem should set out an overall clear vision and set of outcomes for how the entire set of arrangements should work. This would help to identify and resolve any interdependencies or conflicts, and effectively enable the industry to design the more detailed arrangements that achieve Ofgem's vision and outcomes.

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.*

As set out in our answer to question 1, the 4Ds are creating new challenges and opportunities for network operators to manage, particularly at the distribution level. On the one hand growth in distributed energy, particularly the growth in intermittent distributed generation such as PV, means that distribution network operators are being forced to invest in their networks and develop new ways to actively manage local network issues. On the other hand, considerable improvements and falling costs of smart technologies, communications and storage, mean that consumers and producers of distributed energy are becoming a growing source of flexibility to network operators.

A comprehensive review of DUoS charging arrangements is appropriate to ensure that they continue manager their networks efficiently and effectively and to accurately identify and pass on the costs and benefits of using the distribution networks. Also such that they enable participation and innovation by a growing community of distributed energy consumers, producers and their service providers, for the benefit of the end customer.

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.*

As noted in our response to question 1, we believe that the transmission and distribution network charging arrangements ought to share clearer and common design principles. With this in mind, we question the idea that there should be a difference in treatment under distribution and transmission arrangements for comparable activities.

Unless the purpose is to align the distribution connection boundary with the existing transmission boundary, it would make sense to review both boundaries to ensure that changes are clear and consistent, and where appropriate any differences are justified.

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?

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.

As noted in our general response above, we believe there is a risk that focusing on targeted areas may mean Ofgem and industry miss important relationships between those targeted parts and the wider, non-targeted parts.

We believe that Ofgem should set out an overall clear vision and set of outcomes for how the entire set of arrangements should work. This would help to identify and resolve any interdependencies or conflicts, and effectively enable the industry to design the more detailed arrangements that achieve Ofgem's vision and outcomes.

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.*

As noted in our general response above and to question 8, we believe there is a risk that focusing on targeted areas may mean Ofgem and industry miss important relationships between those targeted parts and the wider, non-targeted parts.

We believe that Ofgem should set out an overall clear vision and set of outcomes for how the entire set of arrangements should work. This would help to identify and resolve any interdependencies or conflicts, and effectively enable the industry to design the more detailed arrangements that achieve Ofgem's vision and outcomes.

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?*

If Ofgem believes that the design of BSUoS charging arrangements do not need to adhere to the same design principles as for other network charges then we are not opposed to an industry taskforce developing and assessing options.

Whoever leads this initiative should consider the relationship between BSUoS charges and the BSC's Residual Cashflow Reallocation Cashflow (RCRC). That is, both RCRC and a proportion of BSUoS charges arise from the need to resolve energy imbalances that occur on the system and both charges are based on BSC Parties' Credited Energy Volumes. Where BSUoS charges recover the costs incurred by the System Operator in resolving energy imbalances, RCRC returns/recovers the net of imbalance charges paid by or to BSC Parties for any energy imbalances they are responsible for. Because of this relationship, some in the industry have previously argued that a change to one charge requires a related change to the other as they are 'two sides of the same coin'. Between 2012 and 2014, BSC Modifications [P285](#) and [P286](#) sought to make changes to RCRC in response to CUSC Modification Proposals [CMP201](#) and [CMP202](#) that proposed changes to BSUoS charges.

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.*

As noted in our general response above and questions 8 and 9, we believe there is a risk that focusing on targeted areas may mean Ofgem and industry miss important relationships between those targeted parts and the wider, non-targeted parts.

We believe that Ofgem should set out an overall clear vision and set of outcomes for how the entire set of arrangements should work. This would help to identify and resolve any interdependencies or conflicts, and effectively enable the industry to design the more detailed arrangements that achieve Ofgem's vision and outcomes.

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?*

Ofgem's review of Access and Forward Looking Charging arrangements is one of a variety of related initiatives aimed at moving to a smarter and flexible energy system. These include, but are not limited to: Ofgem's closely related Targeted Charging Review Significant Code Review; its Significant Code Review on Electricity Settlement Reform (i.e. market-wide half-hourly Settlement (MWHHS)); and its review of Future Supply Market Arrangements. It is also related to wider industry lead initiatives such as: CUSC Modification CMP280 and DCUSA Modifications DCP319 and DCP321 all of which change how residual charges are levied for storage facilities and the Energy Networks Association's Open Networks Project.

The development of new Access and Forward Looking Charging arrangements has the chance to influence and be influenced by these related initiatives.

Furthermore, it is likely to be more efficient and provide greater certainty to industry if the implementation of recommendations by these initiatives make as few changes to systems and industry rules as possible, particularly if it can be avoided by coordinating the development of each initiative and the implementation of recommendations. For example, changes to implement Access and Forward Looking Charge arrangements, recommendations of the TCR SCR and CUSC Modifications CMP280, DCP319 and Distribution change DCP321 will all affect network companies' billing systems. Currently each of these initiatives will be implemented at different times: Access and Forward Looking Charges in April 2022 and 2023; TCR SCR in April 2020; CMP280 in April 2020; and DCP319 and DCP321 in April 2021. In its response to the CMP280 Workgroup consultation, National Grid indicated that it might cost up to £1m for this modification alone.

On behalf of Ofgem, ELEXON is leading the design of Target Operating Models to deliver market-wide half-hourly settlement (MWHHS). MWHHS will ensure that HH metered data, from smart meters, is used for Settlement purposes, which will also enable the widespread use of MWHHS data for other purposes, e.g. network charges. We expect Ofgem to make a decision on proposals to implement MWHHS in late 2019, which depending on the target operating model chosen mean MWHHS is implemented as early as 2022.

In parallel to our work on MWHHS, ELEXON is actively working with industry to develop solutions that enable and take advantage of secondary metering, i.e. 'behind the meter'. It is becoming clearer to us that measuring activity 'behind the meter' is an important part of future market arrangements – e.g. to facilitate aggregators participating in the BM or TERRE, to ensure the correct calculation of Final Consumption Levies, to enable multiple supplier models, the provision of bundled services (e.g. provision of all electricity required to power an EV) and peer to peer trading models, etc.

However, despite these initiatives that will make market-wide HH and 'behind the meter' metered data available, Ofgem has already recommended not further considering the use of gross metered data as part of its Targeted Charging Review Significant Code Review¹ - 'the practical challenge of this option [gross volumetric consumption charges] is considerable'. We agree that the changes are considerable but we urge Ofgem to carefully consider discounting options in light of the range of related and possibly complementary initiatives that are being developed to support the transition to a smart and flexible energy system.

¹ Ofgem, 'Targeted Charging Review: update on approach to reviewing residual charging arrangements', November 2017; page 18.

To ensure its recommendations for network charging arrangements make best use of HH data under MWHHS arrangements, we urge Ofgem to consider closely aligning its review of network charging with its SCR on ESR.

We believe coordination across related initiatives is important to ensure efficiency in delivery, that related initiatives may take advantage of complementary changes to rules, processes or systems, and to minimise the risk that related initiatives create or identify issues that require costly changes to or to take account of earlier decisions.