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3 October 2019

Dear Andy,

Future Charging and Access programme – consultation on refined residual charging banding in the Targeted Charging Review – ELEXON’s Response

Thank you for the opportunity to respond to your recent consultation on your refined Targeted Charging Review (TCR) Significant Code Review (SCR) proposals.

ELEXON is the Code Manager for the Balancing and Settlement Code (BSC). We are responsible for managing and delivering the end-to-end services set out in the BSC and accompanying systems that support the BSC. This includes responsibility for the delivery of balancing and imbalance settlement and the provision of assurance services to the BSC Panel and BSC Parties. We manage not just the assessment, but also the development, implementation and operation of changes to our central systems and processes.

The following response sets out our views on how a BSC-based solution can enable your refined proposals and highlights areas that require further consideration before you make your final decision. We have summarised our thoughts in the main body of our response and provided more detail in the Annex to this letter.

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.

Enabling fixed residual charges - a BSC-based solution

In accordance with the Balancing and Settlement Code (BSC), BSC Parties and ELEXON ensure that metered data¹ 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 also 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.

In general, we believe that BSC processes and Settlement Data should continue to support the calculation of network charges and in particular your TCR proposals. A BSC based solution would build on established and best in class open governance and would take advantage of BSC Systems which are being upgraded as part of our Foundation Programme. The Foundation Programme will replace existing systems with a modern, scalable and flexible platform that supports both current Settlement and future Settlement arrangements. These include Market Wide HH Settlement (MHSS), Multiple

¹ Imports and Exports measured in kWh or MWh. Also, whilst not used for Settlement purposes, the BSC requires that certain metering systems measure reactive power (kVAr) too.

Suppliers, Wider Access to the BM and TERRE, arrangements for measuring Behind the Meter assets and new network charging arrangements. All of these initiatives require the maintenance of new registration details, so ELEXON is building a single, dedicated registration system.

By expanding existing BSC and Party Agent roles, processes and systems to aggregate metered data used for Settlement with new registration details² for individual metering systems, BSC processes could provide Distribution Network Operators (DNOs) and the National Electricity Transmission System Operator (NETSO)(i.e. National Grid Electricity System Operator Ltd) with the data necessary to calculate the fixed charges proposed in your refined proposals. We have set out in more detail how we think a BSC-based solution might work in the Annex to this letter.

Unless Ofgem decides on specific business requirements and a technical solution that does not require changes to BSC processes or systems, we encourage you to ensure that any directions to DNOs and NETSO to implement the TCR SCR do not preclude the raising of a BSC Modification and development of a BSC-based solution.

Areas requiring further consideration

Before Ofgem makes its final decision on its TCR SCR proposals, we believe Ofgem should give further consideration to some specific issues. We have summarised these below and provided more detail in the Annex to this letter.

- Timing – Ofgem proposes that, at the earliest, its proposals should be implemented in April 2021. At this time, we believe any industry code modifications would face a considerable challenge to be developed and implemented by April 2021. This is particularly the case if Ofgem expect industry workgroups to resolve issues that have to date proved contentious, e.g. the meaning of final and intermediate demand. Furthermore, given the number of changes that Ofgem and industry is already committed to implement over the next 18-24 months, we believe there may not be capacity to implement any new changes to the BSC and its systems until after April 2021.
- Managing interactions with other projects – the TCR SCR has been developed alongside a number of other related regulatory and industry code changes, e.g. the Access and Forward Looking Charges SCR, MHHS, CMP280/281 and DCP341/342. Ofgem should implement the TCR SCR to take advantage of opportunities to develop common ‘whole system’ solutions and to minimise the risks that competing projects and systems releases lead to an inefficient delivery of piecemeal change and unintended consequences.
- Definitions of ‘Final Demand’ and ‘site’ – there are elements of your proposals which remain unclear. In particular, the meaning of ‘final demand’ and ‘site’. The meaning of final demand has already been considered at length as part of recent DCUSA and CUSC workgroups, each of which came to different outcomes. The DCUSA, CUSC and BSC all have slightly different meanings of what a ‘site’ is. Whilst industry workgroups could resolve these uncertainties, we would encourage Ofgem to be as clear about its

² Your refined TCR proposals will require new registration information to be created and stored in respect of individual metering systems – i.e. which user segment, their association to a specific site and whether the site performs final consumption.

expectations as possible. Otherwise industry workgroups may require additional time and may come to different conclusions.

- Common business requirements - Ofgem has sought to clarify its proposals but to date we are not aware of a common set of business requirements that provide a single, consistent summary of Ofgem's expected outcomes. We have prepared some initial business requirements in the annex to this letter and would be happy for Ofgem and Industry to adopt these.

With particular regard to timescales, we urge you to consider carefully the time that industry may need to develop and implement the necessary industry code modifications and how these changes interact with the implementation of other related industry code modifications and SCRs.

We recommend that Ofgem implement the TCR SCR in April 2023. This would give appropriate time to develop final industry code modifications, provide suppliers and customers with sufficient notice of changes to charges and would likely align with the implementation of the Access and Forward Looking Charges SCR and the MHHS TOM - thereby taking advantage of common system solutions and minimising the number of system releases.

We plan to continue to support Ofgem and industry in developing the final TCR SCR proposal and with any subsequent industry code changes.

In the meantime, please do not hesitate to contact me to discuss further.

Yours sincerely,

Nicholas Rubin
Design Authority

List of enclosures

Annex: ELEXON detailed comments on Ofgem consultation

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This annex provides ELEXON's more detailed views on a potential BSC-based solution. We also highlight issues that Ofgem should consider further before finalising its TCR SCR proposals.

A BSC-based solution

The following is our understanding of the requirements for Ofgem's minded-to fixed charge proposal and an initial view of how a BSC-based solution might work. Please note that our proposal is limited to identifying and reporting the volumes of consumption and numbers of sites registered by parties, and does not describe how network companies use this data to set tariffs, calculate charges and bill – we note that Ofgem is separately considering whether a third party might support the calculation of charges and billing as part of its Access and Forward Looking Charges SCR, which we will respond to separately.

At a time when industry is creating more data and seeking to do more with it, we believe that industry processes and systems should be designed to ensure that data is stored and made available efficiently and securely. We believe that industry changes need to be 'whole-system' changes, so that they work together, remain future-proof and where appropriate develop and use common solutions that support a range of activities.

In the case of the TCR SCR proposals, it is becoming clear that the data required is either spread across existing systems or doesn't yet exist. As part of our work on designing the MHHS TOM and developing solutions to BSC Modifications³, ELEXON is already making or planning changes to the BSC systems to consolidate the collection and aggregation of metered data and maintain dedicated registration records for individual metering systems. These changes will be supported by the delivery of our Foundation Programme⁴ – which aims to remodel and update the BSC central systems so that they can deliver a flexible, scalable and open digital platform for our current and future settlement arrangements. A BSC-based solution would build on best-in-class open governance and assurance frameworks and take advantage of enhanced systems and platform services.

A BSC-based solution would ensure a single consistent approach to the aggregation of metered and registration data necessary for DNOs and NETSO to calculate residual network charges. In principle, we believe a centralised solution would be more cost-effective than for DNOs and NETSO to each build solutions for collecting, storing and aggregating registration and metered data.

Our understanding of your requirements

We are not aware of a single set of public business requirements or rules that describe the specific characteristics and outcomes that a technical solution should satisfy in order that your TCR SCR proposals are implemented. We believe it is essential that either Ofgem or industry prepare detailed business requirements that provide a consistent and coherent explanation of what a technical solution

³ The MHHS Target Operating Model, BSC Modifications P344 (TERRE and Wider Access), P354 (measurement of applicable balancing services), P375 (which will enable the registration and use of secondary asset metering - 'behind the meter'), P379 (multiple suppliers) and P383 (exclusion of storage from network charges).

⁴ For more information please see: <https://www.elexon.co.uk/about/about-elexon/foundation-programme-2018/>

should deliver. We believe that the more certainty that can be provided to industry before Ofgem directs DNOs and NETSO to raise industry code modifications the better.

Based on your TCR publications and discussions with your colleagues, DNOs and the NETSO, the following is our high-level understanding of the business requirements necessary to deliver your TCR SCR minded-to proposal for residual charging.

We have compiled these requirements to help us understand and clarify how your TCR SCR proposals would work, to help us consider how a BSC solution would enable these requirements and so they might serve as a starting point for establishing common requirements that Ofgem and other industry participants can use to finalise the TCR SCR proposals and develop subsequent industry code modifications.

- Your minded to position is to recover Distribution and Transmission residual revenues using a fixed charge method.
- Fixed charges will be levied per site and per day (£/site/day).
 - When levying a fixed charge, network companies will levy these in respect of sites or premises that perform final consumption only.
 - Nb an alternative approach might be to determine a fixed charge based on final consumption but levy the fixed charge from all sites irrespective of whether performing final or intermediate consumption.
 - The definition of a site, whether or not performing final or intermediate consumption, is yet to be defined.
- DUOS and TNUOS fixed charges will be set for a range of user segments.
 - Domestic customers will be split between unrestricted and Economy 7.
 - Non-domestic customers will be split first by voltage of connection (LV, HV, EHV and Transmission) and then further sub-divided based on either agreed capacity or consumption (if no agreed capacity available).
 - Non-domestic user segments have yet to be finalised.
- Metering Systems and Sites/Premises allocation to User Segments will be set every [seven] years
 - Whether a mid-period review processes should be included has yet to be determined.
 - Bearing in mind that uptake of EVs, storage and heat pumps may substantially alter consumption and/or capacity requirements for a site.
 - Treatment of new connections needs to be determined.
- Registration records will need to be created and maintained that link Metering Systems to Sites and User Segments, and identify whether a Metering System and/or Site performs Intermediate/Final Consumption.
- Residual revenue is the difference between a network company's total annual allowed revenue and the annual revenue it expects to recover through its forward-looking charges.
- DNO residual revenues will be determined for each distribution services areas (i.e. GSP Group).
- The NETSO's residual revenue is a single value irrespective of the three Transmission Systems it operates.

- For a single GSP Group, the DNO's residual revenue will be split across each user segment by determining each segments' proportionate contribution to total annual Final Consumption in that GSP Group during a historical 12 month period (i.e. the 'reference period').
- For the NETSO, its residual revenue will be split across each user segment by determining each segments' proportionate contribution to total final consumption in all GSP Groups and across all Transmission Systems.
- Final Consumption is yet to be defined but is intended to represent Imports that are not used in order to perform electricity generation or storage.
 - The meaning of demand can be ambiguous, e.g. whether it refers to MW or MWh. Therefore, we refer to consumption (MWh).
- Intermediate Consumption is any consumption/Imports that is not Final Consumption.
- To determine a DNO fixed charge (£/per day/per site) for a user segment, the allocated residual revenue is divided by the number of sites connected to the DNO's network in the GSP Group and attributed to that user segment.
- To determine a NETSO fixed charge (£/per day/per site) for a user segment, the allocated residual revenue is divided by the number of sites connected to all distribution and transmission systems and attributed to that user segment.
- Total annual Final Consumption per User Segment and GSP Group is only required once a year, to set charges.
 - Assuming charges are only set annually. Must the solution cater for mid-year changes?
- Numbers of sites/premises per UoS liable person, User Segment and GSP Group are required to be calculated on a daily basis – i.e. to take account of change of supply activity.

Summary of a proposed BSC solution

This is not a final proposal but is intended to illustrate how a BSC-based solution could enable the subsequent calculation of residual charges and levying of bills by DNOs and NETSO. Our proposal does not describe how DNOs and NETSO would use the metered and registration data to calculate residual charges and calculate bills. The following elements of a BSC solution build on existing and forthcoming BSC processes and systems. In the following subsection we consider the opportunity to centralise certain aggregation processes under the MHHS TOM. These changes would require changes to the BSC, so any direction to implement the TCR SCR may need to accommodate the need to raise a BSC Modification.

- **Add new registration details to existing or new registration systems** – registration systems will need to store details of how Metering Systems are related to User Segments and to sites, and whether a Metering System is used to measure Intermediate consumption. Either new registration details can be created for each Metering System or existing registration details can be re-used. Registration records will need to be accessible by HHDA, NHHDA and SVAA. New details may be preferable as certain existing registration details are already used for other Settlement and/or charging purposes and so redefining or re-using existing details may disrupt these existing uses. Nb BSC Modification P383 proposes to maintain details of SVA Storage Facilities, i.e. Storage Facilities whose

Import Metering Systems only measure intermediate consumption. The P383 solution could be expanded to store details of all Metering Systems that are considered to measure intermediate consumption for the purposes of the TCR SCR proposals.

- **Measurement of Total Annual Gross NHH Imports per User Segment per GSP Group** – based on existing and new registration details, on a specific day each year, each NHH Data Aggregator will be required to aggregate the EACs for all NHH Metering Systems it is appointed to by GSP Group (or IDNO) and by User Segment. Each NHHDA will report the aggregated EACs to SVAA⁵. The NHHDA's aggregation of EACs is in addition to its existing Settlement responsibilities.
- **Measurement of Total Annual Gross HH Imports per User Segment per GSP Group** – based on existing and new registration details, HH Data Aggregators will be required to aggregate HH Imports measured by all Import HH Metering Systems it is appointed to for each Settlement Day. HH Data Aggregators will aggregate HH Imports by GSP Group (or IDNO) and by User Segment. The HHDA will report each day the aggregate of HH Imports to SVAA⁶ in accordance with existing Settlement Timetable. The HHDA's aggregation of HH Imports is in addition to its existing Settlement responsibilities. On a specific day each year, SVAA will aggregate all HH Imports for the last 12 months by GSP Group and User Segment.
 - Nb under the Market Wide HH Settlement (MWHHS) Target Operating Model (TOM), rather than HHDA's, a single central agent, e.g. SVAA, would aggregate individual Metering Systems' HH metered data. This is because under the TOM, a central agent would receive individual Metering System's HH metered data.
- **Measurement of Intermediate consumption** – we propose to build on the process proposed by BSC Modification P383. That is, having been informed or identified specific Metering Systems that measure intermediate consumption, SVAA will instruct the appointed HHDCs to begin reporting HH Imports for these Metering Systems directly to SVAA on a daily basis and in accordance with the Settlement Calendar. On a specific day each year, SVAA will aggregate the HH Imports for these Metering Systems by GSP Group and User Segment. Nb depending on Ofgem's final proposals for BSUOS, the determination of Intermediate consumption for all generators may need to be aggregated by HH and reported to the NETSO on a daily basis so it can be excluded from the calculation of BSUOS Demand Charges – i.e. by extending the P383 and CMP281 solutions to apply to all generators.
- **Determination of Final consumption** – on a specific day each year, for each GSP Group and User Segment, SVAA will subtract the annual intermediate consumption from total annual gross HH Imports.

⁵ DNO's do not receive individual NHH Metering Systems EACs. NHHDA's have an existing interface with SVAA but not with DNOs.

⁶ HHDA's have an existing interface with SVAA but not with DNOs. Nb HHDCs have an existing interface with DNOs, so DNOs could aggregate each HH Metering Systems HH Imports by themselves. However, NETSO does not receive individual HH Metering Systems Metered Data and so would either need to receive this data directly or require another person to aggregate the metered volumes by User Segment and GSP Group.

- **Measurement of numbers of sites**– every day, DNOs and/or SVAA must sum the number of distinct Sites registered in the registration system(s) for each person liable for TNUOS and DUOS charges, per User Segment and per GSP Group.
- **Reporting Gross Imports, Final Consumption and Intermediate Consumption** – SVAA will report these volumes on a specific day each year, either using existing interfaces between it and DNOs (e.g. D0030) and NETSO (e.g. P0210) or by creating new interfaces.
- **Reporting numbers of sites** – every day, in accordance with the Settlement Calendar, SVAA will send a report to DNOs and NETSO identifying the breakdown of sites per User Segment, GSP Group, per registrant. SVAA will report these volumes either using existing interfaces between it and DNOs (e.g. D0030) and NETSO (e.g. P0210) or by creating new interfaces.

The following are elements of a final solution which a workgroup may need to consider further:

Declaration and assurance of Intermediate Consumption – Any future change that implements the TCR SCR proposals ought to consider whether and how intermediate consumption is declared and assured so it can be identified and excluded from the measurement of Final Consumption. For example, the CMP280/281 and P383 proposed solution is for Suppliers to declare (on behalf of their customers) if a Metering System is associated to an SVA Storage Facility and therefore measuring intermediate consumption. The proposed solution also introduces specific assurance measures to check the initial and ongoing validity of declarations. The P383 solution could be extended to apply to all generators.

Market Wide HH Settlement (MHHS) Target Operating Model (TOM) – the design and timetable of a solution for the TCR SCR proposals should consider how it might best take advantage of the forthcoming MHHS TOM.

Under the current Settlement arrangements the collection and initial aggregation of metered data is performed by a number of party agents – Data Collectors and Data Aggregators. The MHHS TOM has been designed to support a considerable increase in the Settlement of HH metered data from Smart Metering Systems, Advanced Metering Systems and the existing stock of HH Metering Systems. The TOM envisages individual Metering Systems’ metered data being reported to a central agent, e.g. SVAA. This central agent will then be responsible for aggregating this metered data for use in Settlement and a range of other industry processes, including network charging. Consequently, rather than the HHDA aggregating HH metered data (as proposed above) and reporting it to SVAA, SVAA would by itself aggregate individual Metering Systems’ HH metered data.

We believe that the future MHHS TOM will provide an even more effective solution for collecting and aggregating metered data and storing registration details that enable the aggregation of metered data for both Settlement and a growing number of other purposes. Implementation of the TOM will simplify existing settlement and network charging processes and provide a strong platform that enables the TCR SCR and the Access and Forward Looking Charges SCR proposals. However, assuming Ofgem directs that the TOM is implemented as part of its Settlement Reform SCR, the TOM will be implemented between 2021 and 2023. By aligning the delivery of the network charging SCRs with the implementation of the MWHHS TOM, industry could take advantage of a simplified and scalable approach to aggregating metered data and derisk the implementation of forthcoming central and party system releases.

Issues for further consideration

The following are issues we believe require consideration before Ofgem publishes directions to modify industry codes.

Allowing sufficient time to develop and implement industry code modifications - Ofgem has proposed a selection of dates for implementing its TCR SCR proposals. The earliest proposed date for implementation is April 2021. Your July 2019 Charging Future's Forum slides⁷ suggest you expect industry code modifications to be raised this Autumn and submitted to Ofgem for a decision in Spring 2020, allowing 3-4 months for modifications to be developed and approximately 12 months to implement.

Industry code modifications can take several months to be developed, assessed and implemented – the typical time taken varies from code to code – the BSC typically requires four or five workgroup meetings but CUSC workgroups require on average 16 meetings. It's worth noting that even though Ofgem had worked with ELEXON and industry to prepare draft business rules for its Electricity Balancing Significant Code Review (EBSCR) proposals, Approved BSC Modification P305 still took almost 18 months between the point it was raised and implemented⁸. On reflection, we believe the development and implementation of P305 proved a challenge for industry⁹. In the context of the TCR SCR, changes required to market participants' processes and systems (e.g. registration, charging and billing) may be more substantial than under the EBSCR and so may require longer to design and implement.

Whilst we agree that certain points of detailed design can be explored and agreed on by industry code modification workgroups, we note that the more certainty that Ofgem can provide as part of any direction the better. On the one hand this will likely reduce the time needed by industry to develop industry code solutions. Also, it would reduce the risk that industry workgroups develop solutions that misinterpret or are contrary to Ofgem's policy intent or that cross-code modifications are inconsistent with each other (e.g. even though they were set the same challenge, DCP341/342 and CMP280/281 propose different solutions). There is also a risk that under CUSC governance arrangements, the workgroup may develop many alternative solutions, each taking time to develop and assess. Whilst an extreme example, the development of CUSC Modifications CMP264/265 resulted in ~80 workgroup alternative CUSC Modifications considered.

We understand that the Authority may direct otherwise, but existing and proposed requirements on network companies to give 15 months' notice or to set inputs for calculating charges 15 months' ahead of taking effect reflect industry's need for time to accommodate changes to network charges. Therefore, implementation of systems and the provision of data sets to allow the setting of charges may need to allow sufficient time for notice to Suppliers and other parties.

Managing the interaction between the TCR SCR and other related initiatives - The TCR SCR proposals will not be developed and implemented in isolation. The TCR SCR proposals will be developed and implemented alongside other in-flight industry code modifications to the network

⁷ Available at: <http://www.chargingfutures.com/about-charging-futures/charging-futures-forum/previous-forums/4-july-2019-forum/>

⁸ The NETSO raised P305 in May 2014, ELEXON produced the Final Modification Report (FMR) in March 2015, and ELEXON finally implemented P305 in November 2015.

⁹ The Demand Control Event on 9 August 2019 has demonstrated how certain P305 processes may have been implemented hastily.

charging arrangements (e.g. CMP280/281, DCP341/342 and P383), the Access and Forward Looking Charges SCR proposals and other industry code and regulatory initiatives, e.g. Wider Access, TERRE, Settlement Reform, Future of Retail Markets, reform of energy industry codes. Ofgem and industry will need to carefully coordinate changes to implement TCR SCR and other changes to ensure: risks are managed (e.g. that solutions are consistent and systems releases resourced adequately); costs are kept to a minimum (e.g. by keeping the numbers of systems releases or consequential changes to the same processes and systems to a minimum); and opportunities to take advantage of common solutions or release programmes can be maximised. Furthermore, competing initiatives and the need to develop detailed solutions will likely put pressure on available industry resources and may require more time than Ofgem has currently planned.

Impact of widespread industry change on planned system releases – the energy sector is undergoing considerable and widespread change: in opportunities to participate, its market structure, to how it is regulated and governed, the technology it uses, its shared processes and systems. Many industry stakeholders are managing a considerable workload, and related risk, to accommodate regulatory changes and other changes driven by market forces.

At ELEXON we are progressing a number of changes to the BSC and its systems to accommodate regulatory and industry-driven initiatives. Because of the volume and scale of change we are planning system changes over the next five years, and committing resource to implementing changes over the next couple of years.

Unfortunately, a consequence is that if changes to BSC systems have not yet been formally identified through a BSC Modification or Change Proposal, and so lack detailed business requirements and impact assessments from industry and our own service providers, then it is unlikely that we can make additional system changes¹⁰ until much later in 2021.

Per site or metering system? – Ofgem’s original minded to position was to levy fixed charges on a per meter basis. In your refined proposal the fixed charge should be levied on a per site basis.

We do not believe it is our place to comment on the regulatory or economic rationale for charging on a per meter or per site basis. However, there are practical implications that Ofgem should bear in mind.

The BSC, CUSC, DCUSA and MRA all include definitions of or at least refer to ‘sites’ and ‘premises’. There does not appear to be a single consistent definition of each of these terms. A consistent definition of a ‘site’ will need to be agreed to ensure that sites are treated consistently when allocated to user segments, registered/maintained in registration systems and ultimately charged for UoS, whether DUOS or TNUOS.

Whilst larger sites connected at higher voltages may be explicitly recognised by network companies, e.g. in order to calculate site-specific bills, or in CMRS for Settlement purposes, these registration records are not necessarily consistent or shared. On the other hand the vast majority of sites, which are smaller and connected at lower voltages, have their Metering Systems (not their sites) registered in MPAS/SMRS, which provides more consistent and accessible approach to registering details. However, the network companies tend to charge Suppliers for the overall use of the networks by the

¹⁰ Changes that have been the subject of an impact assessment as part of the BSC change process are included in our scheduled systems releases over the next 24 months, even if Ofgem has not yet made a decision to approve these changes. For example, P383 is included in our April 2021 release plan.

Suppliers' customers and so the network companies typically charge based on aggregated Metering System data – the network companies don't receive individual metering system data for NHH and elective HH metering systems.

Details of larger sites will need to be aligned and registered consistently, and new, consistent registration details that tie Metering Systems to smaller sites will need to be created. Ultimately the alignment and population of registration systems is likely to require careful coordination by registrants or registry administrators and may be time consuming.

Rather than designing new solutions, P383 and the MWHHS TOM may provide forthcoming solutions to maintaining registration details and for performing the subsequent aggregation of metered data and registration details.

Ofgem or a workgroup will need to consider how to treat sites whose Metering Systems are registered by more than one Supplier/Party. There is a risk that if a single site with multiple Suppliers/registrants is treated as multiple sites, that it discourages customers from taking advantage of having multiple Suppliers/registrants, each of which may offer different prices and services for different activities at the site. Alternatively, if the customer should be charged only once for its total site, then which Supplier/party should bear the fixed charge?

Can a site comprise final and intermediate consumption, e.g. so long as the intermediate consumption is metered separately? Or is an entire site/premises considered to be either final or intermediate consumption – so if assets operated by a single person behind a single common connection boundary perform intermediate and final consumption these assets could be registered as a final consumption site and an intermediate consumption site and only attract a charge?

Definition of final demand – Ofgem's proposals for a fixed charge are on the basis 'that residual charges should be levied only on final demand'. Your consultation seeks to clarify what the meaning of 'final demand' means.

In the context of electricity storage, the meaning of final and intermediate consumption has been considered at length as part of the development of CMP280/281 and DCP341/342. The CUSC and DCUSA modification proposals have determined different meanings of what intermediate consumption is, although both definitions would satisfy the explanation provided in your consultation – i.e. CMP280/281 require that the storage facility is operated by a licensee and DCP341/342 do not require this, also DCP341/342 is limited to Current Transformer HH Metering Systems whereas CMP280/281 simply requires that HH metering is used.

In general, ELEXON believes that the meaning of intermediate and final consumption should be used consistently throughout the industry codes. This would provide certainty and consistency in treatment to market participants and to users, which should mitigate perverse outcomes, e.g. that can be caused by differences between charging arrangements. We argued for consistency in our participation at the CUSC and DCUSA modification workgroup meetings. However, we appreciate that there may be specific reasons why it is appropriate for the meaning to vary in different circumstances and in different codes.

There may be practical implications depending on the agreed meaning of final and intermediate consumption and its potential use in different circumstances. One possibility is that if the TCR SCR meaning is closely aligned with the meaning proposed for CMP280/281, then the P383 proposed solution is likely to provide a strong foundation, with little need for change, for supporting the registration of additional intermediate consumption sites' details.

On the other hand, if the TCR SCR meaning is considerably different to the CMP280/281 and DCP341/342 proposals then metered and registration data may need to be aggregated according to three different methods to calculate DUOS and TNUOS residual charges. That is, a single Metering

System's registration record may need to identify whether it satisfies the DCP341/342 criteria, the CMP280/281 criteria and the TCR SCR criteria. This would mean that registration systems would need to identify how a single metering system is treated for each method.

Consequently, it may be more cost effective to design an alternative technical solution for P383 and DCP341/342. For example, if the TCR SCR approach is intended to accommodate all types of generator, irrespective of size or whether operated by a licensee, then it may be sensible to design more scalable and automated P383 and DCP341/342 registration solutions than is currently proposed.

Whilst we try to take account of future changes when developing modification proposals, ultimately we are limited to designing technical solutions based on the prevailing baseline. Until Ofgem makes its decisions in relation to the BSC, CUSC and DCUSA modifications and in relation to the TCR SCR, the implications of different meanings of final and intermediate consumption will remain uncertain and we run the risk of needing to revisit the technical design and implementation plans for those modification proposals.

Finally, whilst not the specific subject of your refined proposals, the TCR SCR proposes changes to the calculation of BSUOS. To date, the expectation had been that no BSC changes would be required to support your proposed changes to BSUOS. However, if Ofgem believe that intermediate consumption performed by all generators should be excluded from the calculation of BSUOS Demand charges, then a CUSC and BSC Mod equivalent to CMP281 and P383 may be necessary.