By e-mail to: fusion@spenergynetworks.com

30 August 2019

Dear FUSION Team,

ELEXON's response to your consultation on the Universal Smart Energy Framework.

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 central systems and processes. In addition, through our subsidiary, EMR Settlements Ltd, we are the Electricity Market Reform (EMR) settlement services provider, acting as settlement agent to the Low Carbon Contracts Company (LCCC), for the Contract for Difference (CfD) and Capacity Market (CM). EMR services are provided to the LCCC through a contract and on a non-for-profit basis.

We are strongly supportive of the developing smart and flexible energy system, and stand ready to facilitate these developments where we can. This includes enabling initiatives to widen access to the energy markets, such as Project TERRE, driving changes to improve efficiencies, such as market-wide Half-Hourly Settlement, and proposing solutions to energy market problems, such as our white paper on multiple suppliers which is now being progressed as BSC Modification P379.

It is of fundamental importance that flexibility markets are developed and then subject to a degree of standardisation. This will make it easier for flexibility providers to offer their services nationally and internationally, simplifies interfaces with central systems to ensure effective reconciliation and level playing fields, and ensure compliance with EU requirements to consider standardised products for flexibility services.

We would also like to commend the format in which this consultation is presented. The situation followed by USEF recommendation made it easy to consider each of the questions, and to provide our view on the matter based on our experience of the current situation and related market developments.

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.

If you would like to discuss any of our answers in more detail, please contact Damian.Clough@elexon.co.uk and Peter.Frampton@elexon.co.uk.

Yours sincerely,

Damian Clough & Peter Frampton
Design Authority
ELEXON

USEF CONSULTATION: ELEXON'S RESPONSE

Q1a: Provided appropriate arrangements for wholesale energy and imbalance settlement for affected suppliers are in place, do you agree that aggregators should be able to provide their services in the wholesale energy markets without a supply licence or an agreement with the supplier of the customer? (Yes, No, Don't know)

Yes – with caveats. Following wider access to the Balancing Mechanism (BM), we anticipate that aggregators will play a key role in the provision of flexibility for ancillary services to National Grid ESO. It is logical to expand the role of aggregators to participation in the wholesale markets, for the provision of flexible services to a wider range of potential buyers, including DSOs.

However, whenever there is more than one party operating at a location there are complexities to be considered. Examples of current considerations of these complexities include BSC Modifications P375[1], P376[2] and P379[3]. In particular, where aggregators are buying and selling energy in wholesale markets relating to an asset located on a customer premises, there will need to be careful consideration regarding at which point those activities do constitute supply to the asset, and it becomes important that consumers receive certain protections and guaranteed standards of service in respect of that activity.

Provision of flexibility will alter the flows over the Boundary Meter. With appropriate adjustment to the Balance Responsible Parties'[4] (BRPs') metered flows at the Boundary Meter then provision of the flexibility will not act like supply on site. For example if the provider of Flexibility on site provided 500 units, but 300 of those units were consumed on site, the primary Supplier would have its imbalance position adjusted by 500 units to reflect its true position as the supplier.

Consideration does need to be made over network charges and BSUoS and who pays or receives the charges/benefits of producing energy. For example should the provider of flexibility into the wholesale market pay the equivalent of generation charges? As they will be competing with other Generators; to maintain a level playing field and not create a distortion then arguably they should. Depending on when and where flexibility is provided this may not always be charges, but may be additional payments. In the future this may open up the concept of local charging.

Allowing Aggregators to operate in the wholesale market will allow the Electricity System Operator (ESO) further insight into how balanced the system is ahead of time, as they will now see increased contracted energy compared to demand in the wholesale market. Previously these assets may have provided services to the Supplier outside of the wholesale market (they were restricted to only providing energy to the Primary Supplier for the sites the assets operated on). Assets can currently operate outside of the wholesale market and effectively 'NIV chase[5]', where the reduction in a supplier's volume may lead to the Supplier being paid the imbalance price and then passing this on. However NIV chasing can lead to ineffective and inefficient balancing decisions being made by the System Operator as they do not have sight of this energy provision.

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[1] P375 'Metering behind the Boundary Point'
[2] P376 'Utilising a Baselining Methodology to set Physical Notifications'
[3] P379 'Multiple Suppliers through Meter Splitting'
[4] As defined in the European Balancing Guideline, European Commission Regulation (EU) 2017/2195, meaning a party responsible for its imbalances
[5] A trading strategy whereby a company seeks to contribute towards maintaining system balance and receive a favourable price for their imbalance volumes compared to wholesale market prices – 'chasing' the Net Imbalance Volume (NIV).

Inefficient balancing actions are paid for by all parties through BSUoS charges. Allowing assets to operate in the wholesale market will have wider benefits to all users. If Aggregators do not provide flexibility as they are contracted for a Non-Balancing service then they should be subjected to Imbalance Charges.

As generation and demand is likely to fluctuate more in the future it is crucial to have increased liquidity so Parties can balance their positions. Parties can now trade after gate closure to balance their positions. Having more options available to do this seems sensible.

Allowing assets to have increased access to other revenue streams strengthens their business case, at a time where it is noted that there is a need for increased flexibility. Ofgem's Targeted Charging Review (TCR) and related Significant Code Reviews (SCRs) are likely to remove certain benefits of behind the meter generation due to the introduction of fixed charges therefore it's crucial that these revenues can be partially replaced to maintain their viability.

We recommend building on the back of existing BSC Modifications such as P375, P376 and P379 when examining how to implement appropriate adjustment arrangements.

Q1b: If yes, a baseline methodology needs to be defined for the ToE in the wholesale markets. Which organisation(s) should take the initiative to design and propose this methodology?

Given that imbalance settlement is where energy is assigned, and the imbalance settlement arrangements in GB are already establishing methodologies to transfer energy for ancillary services provided by aggregators (BSC Modification P344[6]) and considering methodologies for the transfer of energy between two suppliers operating at a single meter point (P379) it would make sense for this issue to be considered within the settlement arrangements.

Considering this issue under the BSC has the further advantage of a robust workgroup process to gather views and best practice from across the industry, and with the final outcome approved by Ofgem.

BSC Modification P376 is already considering introducing a Baseline methodology for the provision of Final Physical Notifications for Aggregators. This could easily be expanded and be used for other products and services. P376 is primarily being used to aid Aggregators in the provision of a Final Physical Notification, however it can also be used to check that Providers are doing something different to what they would have ordinarily have done when activated by the TSO/DSO. This is important for Balancing services provided to the DSO/TSO but less so for the provision of Flexibility in the wholesale markets as the Aggregator is not being paid for a change in behaviour where a baseline methodology is crucial, but paid for the provision of energy to another Supplier.

Q2a: Should there be a standardised publication of congestion points and associated connections, flexible assets and active aggregators, which market participants have access to? (Yes, No, Don't know)

Yes. We believe that standardisation of data and service provision at the DSO level is important for the development of flexibility markets and the efficient development of services and assets for flexibility. We welcome the work individual DNOs are undertaking to surface existing requirements. Consideration of DCP350[7] needs to be taken into account to find an optimum solution for registering assets to prevent a number of fragmented bespoke lists and the inefficiencies this may cause. DNO's

[6] P344 'Project TERRE' implementing Trans European Replacement Reserves Exchange into GB market arrangements

[7] DCUSA Change Proposal DCP350 'Creation of Embedded Capacity Registers'

are also considering queue management, and how to enable a more effective connections process based on the information they have about connected and expected assets.

Timely and transparent data provision to all participants is crucial in finding the optimum solution and creating a level playing field. Interaction with charging models and future tariffs will lead to aligned and consistent thinking. Congestion may be alleviated through sharp locational signals or flexible connections so when considering publicising congestion points, the longevity of these signals needs to be assessed. Incorrect pricing signals may actually be worse than no pricing signals. As signals affect market behaviour and investment, it must be obvious and transparent how they are created especially in a DNO/DSO world.

Q2b: If yes, do you think this should be a regulated entity (e.g. operating under licence, and regulated by Ofgem)? (Yes, No, Don't know, N/A) Please provide the basis for your answers.

No. Standardised publication does not necessarily need to rely on a single point of provision. However, if a single entity were responsible for providing this information then they should be subject to a certain level of service standards. This does not need to extend as far as operating under licence, and could be governed according to, for example, industry codes.

All parties need to have access to the same information at the same time to avoid distortion and promote effective competition, as well as to ensure compliance with transparency laws. If there are different entities involved careful consideration needs to be made over the timely transfer of data and who is ultimately responsible for the accuracy of that data.

Q3a: Do you agree that there should be a central data hub to record flexibility volumes and transactions to allow consistent settlement of flexibility and create transparency? (Yes, No, Don't know)

Yes. Flexibility transactions necessarily interact with existing market transactions and processes, and the data cannot be generated and processed in isolation of the existing market without creating significant price distortions and an unbalanced playing field, resulting in poor consumer outcomes. At the very least data on transactions should be provided to the existing imbalance settlement process in order that appropriate transfers of energy and imbalance adjustments can be made.

While the existing central processes for measurement, validation and settlement (where settlement refers to payment of contracts rather than imbalance settlement, which are separate concepts) do not absolutely need to be leveraged for flexibility contracts at the distribution level, we believe it important to consider the suitability these processes alongside alternative provisions. Volumes and transactions do need to be submitted into central systems to ensure effective imbalance settlement and to avoid distortions, and it would make sense to utilise existing transparency arrangements to ensure this information is made available.

There is a trade-off between flexibility and network build. It is crucial therefore that the cost of flexibility accurately reflects the true costs of its provision. P354[8] was raised and approved which adjusted Supplier's positions for the provision of Non-BM Short Term Operating Reserve (STOR). Non BM STOR tender prices were found to be lower than prices in the BM due to the non-adjustment of Supplier's positions for Non-BM STOR. This non-adjustment led to a positive imbalance position which was passed on to the customer allowing for a reduced offer price of the Non-BM STOR product. The difference was ultimately paid for by other industry parties through the Residual Cashflow Reallocation Cashflow (RCRC) process[9]. Without adjustment the cost of flexibility may look lower than the true cost

[8] P354 'Use of ABSVD for non-BM Balancing Services at the metered (MPAN) level)

[9] The RCRC process distributes leftover monies/shortfalls from the imbalance settlement process.

to consumers, resulting in inefficient investment decisions. There may be occasions where it is cost effective to increase capacity. Knowing when to do so involves creating the conditions for true price discovery.

Distortions may also lead to Parties providing flexibility instead of other Balancing Services. The whole system therefore needs to be considered together when making changes.

Q3b: If yes, do you think this should be a regulated entity (e.g. operating under licence and regulated by Ofgem)? (Yes, No, Don't know, N/A)

No (not entirely, but partially). While some aspects should be 'regulated' (noting that existing settlement processes are regulated by the BSC and approved by Ofgem, but not operated under licence) not all need to be. For example the settlement of contracts can be performed by relatively straightforward payments systems, which do not need to be regulated in the same way as measurement and validation.

Q4a: Would it be beneficial to formalise the responsibilities and the role of the constraint management service provider (CMSP) similarly to the BSP role? (Yes, No, Don't know)

Don't know (unclear). The current GB market arrangements do not explicitly categorise market participants into the roles defined in the European Arrangements (such as Balancing Service Provider). Roles are defined by business functions (such as Supplier, Generator, and Virtual Lead Party) and then the ability to act as, for example, a BSP is conferred to Parties qualified in these roles.

Thus, existing Parties can (and do) act as constraint management service providers (CMSPs) within their existing market roles.

There may be a benefit in distinguishing the role of a CMSP from that of a BSP or other market participants (and at the same time potentially even clarifying and separating other market roles in the GB context), provided what they are required to deliver is materially different from that of other roles and that there are barriers to them entering the market in any of the existing roles. This change would likely be a significant undertaking across a number of GB market arrangements, and the cost of doing so may be considered against the benefits.

Q4b: If yes, what kind of responsibilities should be defined for the CMSP role?

The responsibilities should be based on System Operator needs and defined in the relevant location.

Q5a: Do you think that there is need to create transparency on network limitations that restrict the free trade of flexibility services by market participants? (Yes, No, Don't know)

Yes. Market participants will need to know under what conditions they can expect to be operating their assets. This will have an impact on investment cases and asset operation, and provide signals regarding need for certain asset types in certain locations.

Q5b: If yes, do you think that USEF's Operating Regimes are a feasible solution for this issue? (Yes, No, Don't know, N/A)

Yes. The Operating Regimes are feasible, but not necessarily the best model. Any model will need to be mindful of coordination with national and, where applicable, international legislative frameworks, for example the network code on electricity emergency and restoration[10] (NCER). The model will also need to take into account network needs and service provider capability, and be adaptable to new challenges and solutions.

[10] Commission Regulation (EU) 2017/2196

Q5c: Do you think that clear rules should be defined to regulate when DSOs move from one state to the other? (Yes, No, Don't know)

Yes. As mentioned in our answer to Q5a, market participants will need to know under what conditions they can expect to be operating their assets. The rules should include clear conditions for escalation, ensuring that DSOs have the freedom to mitigate network problems effectively and efficiently, in a safe way and in a way that maximises continuity of service to customers.

Q6a: Do you think that further coordination of flexibility deployment between suppliers/aggregators and the ESO/DSOs is needed to facilitate efficient and reliable flexibility markets? (Yes, No, Don't know)

Yes. It is not possible to effectively manage distribution networks without information on the operation of the assets on those parts of the network. The information provision should include anticipated operation profiles (analogous to Final Physical Notifications (FPNs) in the current system) and anticipated dispatch by other SOs. Suppliers/aggregators do not necessarily need to be directly involved in this exchange of information, as SOs could share data they already have.

Q6b: If yes, do you agree that information exchange (i.e. D-programs) between suppliers/aggregators and ESO/DSOs, concerning flexibility contracts and flexibility activations, limited to congested areas, should be mandatory? (Yes, No, Don't know, N/A)

Yes. As per our answer to Q6b, distribution networks will need this information to operate their networks safely and effectively. Provision of this information should not be burdensome, and duplicity in data provision should be avoided. There are a number of mechanisms by which this burden could be reduced, for example placing a burden on SOs to proactively share data they possess, or by creating appropriate industry data flows to facilitate simultaneous delivery of information to multiple parties.

Coordination frameworks will need to pay particular attention to timings of information exchange on close to real time instructions. While DSOs should be able to model automated responses to system events, any instructions sent to providers in near to real time will need to be provided to DSOs, and DSOs will need to have the capability to process and respond to that data.

Q7a: Would you consider that it is beneficial to have a standard interface between (1) flexibility service providers and flexibility platforms;

Yes. The key points of standardisation are the interactions between the service providers and the SOs/central facilitating systems. This is typically achieved by the standardisation of data flows between platforms and central systems. Provided the interaction between the service provider and the platform delivers sufficient data to effectively deliver the standardised platform/central system data flow, the interaction between the service provider and the platform does not need to be standardised.

However, we still believe it could be beneficial to standardise this interface, as service providers would be able to interact with multiple platforms based on a single model, rather than developing or redeveloping systems to interact with each individual platform. There should be a balance between standardisation, innovation and customer service. Standardisation should make it easier for flexibility providers to offer their services nationally and internationally, simplify interfaces with central systems to ensure effective reconciliation and level playing fields, and ensure compliance with EU requirements to consider standardised products for flexibility services.

and (2) TSO/DSO platforms and third-party commercial platforms? (Yes, No, Don't know)

Yes. For central systems to effectively process the data necessary to ensure the effective and efficient operation of the system (both the physical system and the financial system which supports it) data must be provided in standard formats and at appropriate times.

Q7b: What could be the possible scope of this standardisation?

When specifying the formats for the data transfer, designers should be mindful of existing and familiar flows to reduce cost and time of implementation. In particular, parallels can be drawn with the submission of Energy Contract Volume Notifications (ECVNs) and Metered Volume Reallocation Notices (MVRNs), which are used to notify central system of energy contract details. In addition, Bid-Offer Pair submissions form the basis of providing information on flexibility availability in the BM, and Bid-Offer Acceptances (BOAs) form the basis for providing information on instructions of BM flexibility. These can be combined with information submitted on asset capability to develop new types of notifications relevant to the trading of flexibility.

Q8: Do you agree with USEF's recommendation to allow free bids in a DSO congestion management product, even when DSOs requirements are met by the existing availability contracts? (Yes, No, Don't know)

Yes. While availability payments are important in securing resources for critical locations and for seeding markets, free bids will result in the most efficient procurement of services overall, and deliver the greatest benefit to consumers. As you have noted in the final line of this section, the end goal should be towards liquid flexibility markets which do not require availability contracts.

Q9a: Do you agree that a common mechanism for all DSOs and the ESO to procure flexibility and interact with the market would be beneficial? (Yes, No, Don't know)

Yes. Throughout our participation in the Energy Network Association's (ENA's) Open Networks (ON) project we have maintained that a consistent approach towards the procurement and dispatch of flexibility provides benefits to service providers. It is important that a service provider selling services to more than one SO does not need to develop new systems and process for each set of interactions. As you have noted, a common mechanism could also lower barriers for competition across international markets.

If yes, would you consider the USEF approach to be suitable for providing this mechanism? (Yes, No, Don't know, N/A)

Yes. The USEF approach would be suitable for providing the mechanism, however it is not the only approach that could be used and the costs and benefits of different approaches should be considered. For example, standardisation could be based on the existing processes used by the ESO for the current procurement of flexibility services – this is likely to have the least impact on market participants already operating in GB, and should be compatible with processes for participating in markets internationally following the development of platforms for trading balancing products across Europe (namely TERRE[11] and MARI[12]).

Q9b: If you agree with that consistent processes and standardisation would be beneficial, which elements of the flexibility transactions processes and interactions should be standardised?

Any touchpoints between SOs and service providers could benefit from standardisation. Certainly validation and operation should be standardised. Validation can have a particularly high burden where outputs are metered, and there should not be a burden on service providers to procure and install multiple types of metering on the same asset. There are also benefits to contracts and settlement being standardised. There are, however, a number of legitimate reasons why contracts might vary between network operators, so a standardised 'core' agreement with variable sections might be

[11] Trans European Replacement Reserves Exchange
[12] Manually Activated Reserves Initiative

beneficial. Insofar as settlement refers to the simple payment for a service, it would be beneficial but not essential for timelines and working practices to be standardised.

Imbalance settlement requires the processing of a single data set and therefore must be standardised across all participants in the electricity system.

Q9c: Do you consider it beneficial for GB processes to align with European processes for DSO flexibility mechanisms? (Yes, No, Don't know)

Yes. Ease of participation in multiple markets is beneficial for market participants as it will reduce development and compliance costs for entering new markets. The costs of doing so should be considered against the anticipated benefits.

Q10a: Do you consider that aggregators should have balance responsibility for the flexibility they operate in all flexibility markets and products? (Yes, No, Don't know) If not, which products may deviate from this principle?

Yes. This is essential to ensure that all market participants can offer flexibility services on equal terms, and that there is no advantage to offering a service as an aggregator vs offering the same service as a supplier of a customer. This also ensures compliances with requirements in the Electricity Regulation[13] of Clean Energy Package to ensure aggregators are balance responsible.

Q10b: Do you agree that the open supply position of the supplier should be corrected through defined mechanisms? (Yes, No, Don't know) Please provide the basis for your answer

Yes. As you have identified this is a principle we are already pursuing via the implementation of Project TERRE, and is essential to ensure that Suppliers are not advantaged or disadvantaged by the actions of other parties over which they have no control and with whom they have no relationship. This principle is well understood in the GB context and the mechanisms already exist to implement it.

Q11: Who should be responsible for the re-dispatch in a DSO congestion management product? Please select among the options a, b, c, d, e, none of the above.

We believe that the ESO should be responsible for performing re-dispatch (option C). This is because while a DSO instruction will always theoretically be antagonistic to maintaining system balance, in practice it could be sympathetic to maintaining balance. The ESO is the only party responsible for maintaining system balance, and should therefore make the decision as to whether a re-dispatch is necessary or not.

Q12a: Do you agree that dynamic pooling in flexibility services should be supported? (Yes, No, Don't know)

Yes. It does not make sense to restrict the delivery of a service by an asset because other assets in the same portfolio are providing other services. This would lead to less competition for services and sub-optimal outcomes for consumers.

There is a further consideration, which is that a single asset delivering a service may produce multiple benefits/costs. Where technically possible, service providers should be allowed to deliver (and receive payment for) more than one flexibility service.

Q12b: If yes, please indicate products and services where dynamic pooling should be possible (i.e. balancing, congestion management, wholesale, capacity market).

[13] Regulation (EU) 2019/943

If one asset in a portfolio is not delivering a service, there should be no restriction as to what other services it can provide. It is important to specify where being held in reserve constitutes delivering a service, at which point dynamic pooling of that asset may not be possible.

Q13a: Should sub-metering be allowed in all markets and products, including wholesale market and DSO constraint management service? (Yes, No, Don't know) If not, please indicate products and services where sub-metering should be possible and cost effective.

Yes. We are not aware of any reason to restrict the services that can be delivered by an asset located on a site that is separable from the boundary meter read by virtue of sub-metering.

Q13b: In the case of independent aggregation, should sub-metering also be used as input for the quantification of the Transfer of Energy, which, in turn, will impact wholesale settlement? (Yes, No, Don't know, N/A)

Yes. The transfer of energy should be based on the deviation from expected boundary meter reads caused by the delivery of the service. Where sub-metering is installed, this volume can be more accurately calculated as a deviation at that asset, thus isolating it from other potentially unrelated changes on the site. This leads to fairer and more accurate transfers of energy.

Q13c: Who should be responsible for the validation of sub-metering data?

The sub-metering data should be assured by the party responsible for the installation of the metering according to the requirements stipulated by whatever contract is requiring them to install the sub-metering. Where there are multiple services, sub-metering requirements should be harmonised to reduce the burden on service providers and prevent duplicate installation or over-specification of sub-metering. We are developing a Code of Practice for sub-metering to facilitate the sub-metering of assets used by independent aggregators to participate in Project TERRE, via Modification P375.