1 Active Power Services Parameters – 2020 Product 3

1.1 Questions 4 and 5

Q4 – Do you agree that implementation of these consistent parameters helps to remove barriers to entry?

Q5 – Should any other parameters be considered and if so, why?

The work undertaken by the ENA ON-P is a critical building block for market standardisation and reducing barriers to entry. Together with standardisation of terminology, service definition and products, this could lead to a commoditised flexibility marketplace, vital if GB is to maximise the value of flexibility and the delivery of Net Zero.

Xxxxxxx agrees the implementation of consistent parameters across the standard services Sustain, Secure, Dynamic and Restore helps to attract flexibility. Standard services allow participants who operate across multiple DNOs to clearly identify where they can provide the same (or very similar) services to other DNOs. Without standardisation of flexibility services a flexibility provider could have an asset (or group of assets) which can deliver a Secure service for one DNO but not another DNO due to different parameters defining the service.

The next step is to ensure the parameters are inclusive and fit for all potential providers of flexibility, particularly assets with lower levels of flexibility. Xxxxxxx has used our experience with developing flexibility contracts and with projects TRANSITION and FUSION to support these projects to review the ON-P parameters and propose how they could be more inclusive. This resulted in the inclusion of additional parameters to ensure flexibility tenders are fit for purpose.

Xxxxxxx recommends the Service Description report which was completed through work jointly procured by projects TRANSITION and FUSION. This report will be presented to the ON-P on behalf of TEF and proposes additional parameters and amendments to Schedule 1 that could provide the foundation for a single standard set of parameters that apply to all flexibility assets and services.

2 New DSO Services – 2020 Product 5

2.1 Questions 6 and 7

Q6 – At what point do you believe it is appropriate to standardise new products? For example, should we initiate standardisation early on limited experience, or allow more than 2-3 DNOs to develop and procure similar products before commencing standardisation?

Q7 – Which new DSO services do you believe are ready for standardisation now, if any, and why?

Xxxxxxx believes that standardisation is one of the main factors that will increase participation in the flexibility markets and lower the entry barriers for flexibility providers. With regard to standardisation of new DSO services, we agree with the balance between seeking to accelerate the transition to a flexible energy system with the need to foster innovation. We believe there should be six months experience of using the Standard Flexibility Services Agreement by at least three DNOs prior to standardising the service descriptions and parameters.

Xxxxxxx believes that live and ongoing feedback from customers using these services under the FSA will be vital in ensuring that the end results are fit for purpose and work for all market actors. In this way, we believe that a similar approach should be adopted with the new DSO services. Each service must be tested by multiple DNOs and over an appropriate period of time to ensure they are fit for purpose whilst not prolonging the transition to DSO and commoditised flexibility markets. Xxxxxxx also believes that there should be some opportunity for DNOs to develop services in isolation to encourage competition and manage unique constraints that might not be present in other networks (such as security of supply to non-mainland grids).

Xxxxxxx believes that the ON-P has the opportunity to encourage and develop cross-market standardisation and can align the DNO and ESO flexibility markets to avoid fragmentation and maximise use of available flexibility. In doing so, flexibility providers will be able to participate

across markets and increase the value of flexibility. This will, in turn, encourage the investment in additional and new flexibility solutions, facilitating the greater availability of flexibility to manage constraints and network requirements.

Xxxxxxx recommends the Product Catalogue report which was completed through work jointly procured by projects TRANSITION and FUSION. This report will be presented to the ON-P on behalf of TEF and reviews the services in the market today (as well as potential new services) and uses the ON-P work to group and categorise services which deliver similar benefits. Further, the Product Catalogue can support standardisation across markets.

Xxxxxxx considers that the ON-P services are already well defined but would benefit from customer feedback in using the FSA to procure and subsequently deliver services. The ON-P Sustain service is the most market recognisable and could be implemented even at shorter timescales.

3 Market Facilitation – Non DSO Services – 2020 Product 6

3.1 Question 8

Q8 – What input can you provide to help us prioritise non-DSO Service development:

- what do stakeholders want network operators to facilitate in the near term?
- how can network operators facilitate non-DSO services whilst ensuring system resilience?
- how do network operators create scalable interfaces that allow these markets to flourish?

Stakeholders want peer-to-peer (P2P) services to help them work collaboratively with other network users to address their needs. Xxxxxxx has been involved with the assessment and development of the need for P2P services under projects TRANSITION and LEO. Xxxxxxx recognises that an important requirement for P2P services is to provide customers the ability to trade their Maximum Import / Export Capacities (MIC / MEC) in network area where there are either existing limitations on capacity or where it is too expensive to increase capacity via business as usual methods.

Our discussions with a number of the partners on project LEO and other market actors highlights the need for continuing dialogue and innovation with customer and potential customers to explore potential solutions (which should include P2P services with flexible connections and other solutions).

The ON-P is in a critical position in which it can engage with DNOs and customers to explore solutions and test their suitability prior to incorporating them into business as usual activities. Xxxxxxx sees an opportunity for the ON-P to test the facilitation of non-DSO services using existing DNO systems whilst ensuring system resilience and TRANSITION is ideally placed to support this objective.

Customers on ANM schemes could be allowed to trade their position in the stack if a commercial opportunity is available and we are aware this is being considered.

There are a number of ways in which network operators can facilitate non-DSO services. For

example, system studies could be undertaken in constrained network areas to identify the potential spare capacity at different times of day / year. These time-based 'heat maps' could be developed to indicate when P2P trades could be undertaken, subject to approval of available capacity. These could adopt a 'green', 'amber' and 'red' approach to potential transactions subject to DSO approval on a first come, first served basis. Green transactions are transactions at times when there is spare import and / or export capacity which are likely to be quickly approved (such as trading import capacity during low demand in summer weekends). Amber transactions are those which may be possible but may require a further network study to be undertaken or approval ahead of each delivery window. Red transactions would be automatic rejections based on original time-based heat maps (such as trading import capacity during Winter teatime peak in a demand constrained network).

The creation of solutions such as a time-based heat map also facilitate the uptake of P2P services. If DNOs conducted system studies on a periodic basis (e.g. updated monthly with dynamic updates for significant changes such as storm fronts or network configuration) this would allow customers to trade capacities in network areas easily whilst not introducing network constraints. In addition, customers benefiting from such trades could be charged a fee to recover the initial costs of the studies. Another, and critical, aid to scalability is the development of standard Flexibility Service Agreements for P2P services. These P2P FSAs should allow P2P service participation with limited legal requirement and adherence to DNO requirements, whilst also allowing customers to agree on their own commercial arrangements. Xxxxxxx recommends that the ON-P review the work ongoing by TRANSITION and LEO which are both working to develop P2P contracts that are fit for purpose.

4 Baselining Methodology – 2020 Product 7

4.1 Question 9

Q9 – What challenges are flexibility providers currently facing in respect of baseline requirements?

Flexibility is available from assets that are either directly connected to the network, e.g. wind site, or indirectly connected, e.g. on a site with demand. Assets may provide flexibility as its primary role, e.g. “gas peaker” where the installation comprises solely gas generators whose sole purpose is to provide flexibility, or assets may provide flexibility as a secondary role, e.g. an air compressor on an industrial site that can provide flexibility when not required for process needs. Finally, verification of the output of the asset before, during and after the delivery of a flexibility service can be achieved by metering the assets locally using sub-metering or centrally using the MPAN (which does not meet the requirements of the Flexibility services Agreement which calls for minute by minute metering of flexibility delivery.

An appropriate baselining methodology is required. Whilst assets that are measured locally can provide a real-time baseline, those monitored at an MPAN need more sophisticated means to determine the flexibility delivered. Many baselining methodologies proposed by DNOs rely on some for of historical average (rolling average, same day / time in previous weeks, etc) which can be unsuitable for sites where the MPAN reading vary due to processes on site. Xxxxxxx has observed a site where a standby generator has increased output to deliver a flexibility service (proven by local metering) but the demand moved to offset the generator output. In this case, the flexibility had been delivered as required and the network demand would have been higher but for the generator delivering the required flexibility to offset the increased demand.

As the relative level of flexibility reduces, e.g. EVs, a more robust, reliable and low cost method of determining the flexibility delivered is required.

4.2 Question 10

Q10 – Open Networks Project will consider if differing DER types such as demand turn up, storage, generation etc should be subject to different methodologies. Do you feel this would be a fair outcome for providers or, would a simple one-size fits all approach encourage more participation?

Xxxxxxx agrees that differing DER types may have to be associated with different methodologies. Flexibility from different asset types can be provided for different flexibility services that have corresponding and distinctive parameters (e.g. notification period, ramp rate and maximum duration). Consequently, any service delivery validation (such as baselining) will also have to assess the corresponding service specific parameters of the asset that delivers flexibility. Particularly for the services with short notices (e.g. the ON-P Dynamic and Restore services), monitoring and validation methods must be able to assess the operation of the assets in the timeframe of the service parameters. If a "one-size-fits all" approach is applied then the monitoring and validation methods would have to be applied to all asset types, regardless of whether they can deliver flexibility services on short notice, which will incur additional cost, further reducing the diminishing revenue from flexibility.

Furthermore, asset type and configuration of the service delivery monitoring would require different baselining methodologies:

- Individually monitored assets (e.g. direct control energy storage or generators) are suitable for existing history-based baselining methodology if stacking multiple services continuously. Otherwise, direct monitoring could be used for validation of single service delivery.
- Demand response behind meter - flexible assets located behind the meter could be masked by the historical baselining methodology. Flexibility from these assets could be obscured by changes in operation of other co-located assets. Whilst the effect of demand reduction may not be identified by the typical baselining methodology, the total demand has been reduced when considering the contribution of the co-located assets.
- Domestic assets may be subject to completely different methodologies as it may not be sufficient to meter these assets and a simple verification of state could be sufficient, e.g.

domestic storage is in charging or discharging mode, provided type testing has verified the ability of that asset type / model to deliver flexibility reliably. It may be that such assets are not rewarded at the same level as assets with more robust methodologies.

To encourage participation in the provision of flexibility, there must be a careful balance of simplicity and robustness of service delivery validation. Validation methods must be suitably simple and cost effective techniques to encourage residential customers to provide and benefit from flexibility services. Equally, SME and I&C customers must be accommodated to make use of more reliable and predictable flexible assets that may deliver better value and offer more accurate monitoring.

Baselining methods must be sufficiently robust to accommodate the particular specifics of a flexibility provider that may unfairly disadvantage them or provide them unfair advantage by gaming the validation process.

4.3 Question 11

Q11 – Are there any other key aspects Open Networks should consider when investigating potential methodologies?

We recommended the following aspects should be considered:

- Susceptibility to gaming, e.g. modifying asset operation prior to delivery of flexibility to exaggerate the level of flexibility delivered or the need for flexibility;
- Ease of use and accessibility to all flexibility providers to meet baselining requirements;
    - Data requirements;
- Content (e.g. kW, Voltage, type of day) and format (file or API)
- Length of historical data required to establish reliable baseline
    - Cost of data collection and transfer for validation; and
    - Scalability
- Standardisation of metering and monitoring;
    - To increase reliability and consistency of the methodology;
    - To avoid locking out flexibility providers due to equipment supplier choices; and
    - To accommodate reducing level of flexibility for assets, e.g. domestic assets.
- Alignment of demand response during consumers' non-peak time with system peak time as system peak may not align with consumers' peak demand which makes peak demand baselining methods inaccurate, yet benefiting the wider system

5 The Interactions between Flexible Connections (ANM) and Flexibility Services – 2019 Product 5

5.1 Questions 12, 13, 14 and 15

Q12 – Please provide feedback on the proposed future activity for consideration and which of these activities should be prioritised in any future scheduled development work in the Open Networks Project?

Q13 – Under the current arrangements to do you receive sufficient information, in the right format, and at the right time to be able to manage your curtailment risk effectively?

Q14 – Are there barriers preventing customers with assets with Flexible Connections (ANM) providing flexibility services to the ESO or DSO today?

Q15 – How could DNOs better enable customers with Flexible Connections (ANM) to use Flexibility Services to mitigate the current and future curtailment?

We recommended the following aspects to should be considered;

- ANM flexibility providers compensated or protected for non-delivery due to ANM scheme;
- ANM as a tool to identify flexibility that can be used for delivery of flexibility services at non-critical times for the ANM;
- ANM as a tool to identify sites which are capable of reducing output;
- ANM was implemented as a tool to provide faster, cheaper connections to customers and should not be confused with cheap (or free) flexibility which the DNO can instruct (potentially to the DNO benefit) and undermine the use of ANM schemes; and
- Need greater visibility on constraints as ANM can reduce flexibility available in an ANM area.

6 DNO Flexibility Services Revenue Stacking – 2019 Product 5

6.1 Question 16

Q16 – Please provide feedback on the identified barriers and proposed recommendations and which of these recommendations should be prioritised in any future scheduled development work in the Open Networks Project?

Xxxxxxx agrees that the barriers recognised in the Revenue Stacking work and report are all valid and we also agree with the main opportunities highlighted. From our recent experience of working with project TRANSITION and FUSION as part of a joint procurement exercise between the two TEF projects, we would like to comment on and offer our thoughts on the barriers and the recommendations made in the report.

We particularly like the two revenue stacking tables in the report which help with the understanding of the issue surrounding the stacking of services and the scale of the challenge.

We agree that the stability and security of the grid and the local network is key for the industry and that stacked services should not be used to the detriment of that goal. However, we also agree that flexibility services and the stacking of these services can add a new dimension to the design and management of the grid and networks if designed and used appropriately, will certainly be a useful tool for the ESO and DNOs in the future.

We see that stacking of services is a positive opportunity for the industry and will have the potential to encourage more actors into the flexibility services market and hopefully more, much needed, investment in this area. However, if not managed correctly it also has the opportunity of becoming over-complicated and a risk for the industry, and other market players to be considered as a serious opportunity.

Therefore, we agree with the report that it is crucial that we review the existing barriers, regulations, systems, rules, and contracts and come up with new solutions and we feel that this task should be given priority by the ON-P. From this exercise we should then clearly

communicate the findings and the reasons for any changes and the resultant new and robust replacements. It is then crucial that we test these new processes in a safe environment before implementing in a live market – this will be done to some degree in the TRANSITION and FUSION projects. Also, we feel that to encourage new market actors and investment we do need certainty and a certain degree of simplicity, therefore any future communication coming from the ON-P and the industry must be clear and include a commercial/ financial element, not just cover the technical aspects.

At this point we refer you to the work being done on the FUSION / USEF project, where USEF recommends four additional routes to value stacking, including dynamic pooling, information exchange, defined and transparent settlement processes and flexibility quantification, all very relevant to the consultation, and more information on these can be found on USEF White Paper on Flexibility Value Stacking.

We agree with the Revenue Stacking report that better coordination between all the market players is crucial to aid coordination of services, avoiding locking parties out of certain services due to the interaction between procurement timescales and, we would add, encouraging new asset owners and investment into the market.

We also agree that there is a definite need for a flexibility procurement platform to assist the industry with the potential of multiple procurers and multiple providers of flexibility and also assist in the coordination of the delivery of flexibility across the system and, importantly, provide a tool for better communications with all the market players not just ESO and the DNOs.

Of course, any new platform will have to be supported by a clear principles and rules for addressing flexibility service conflicts between the transmission and distribution networks and other market actors. We agree that these will need to balance the technical requirements / risks for the whole system with the needs of a flexibility procurement platform, value for FSPs and ultimately show benefits for the end consumer.

From our experience of existing trading markets and flexibility services projects we have found that the market actors are very much income focussed and will ultimately look at what's best commercially for them and not always what's best for the ESO and DSO. Therefore, any discussions required around conflicts, as recognised in the report, between the ESO and DNOs need to be widened to include the other market actors to understand their drivers for getting involved. This would assist in establishing a realistic look of the marketplace and how coordination can be achieved across the whole system and assist in achieving the best results for all and ultimately for the end customers – refer to the feedback from the recent "Flexibility Services Simulations" exercises carried out as part of the Transition project.

We anticipate, that during this review and as the ON-P progresses, that some form of grid balancing condition / service priority list will be produced for each use case / flexibility service, e.g. is Firm Frequency Response more important to the industry than DNO Sustain? Is Black Start more important than DNO Restore? etc. This list will assist in better communication and discussion between all actors and coordination between the ESO and DNO. However, recognising the fact that flexibility service providers will always look for the best and least risky deal for themselves, the industry will have to recognise that they may have to pay compensation or increased payments if any contracted service is withdrawn or changed at short notice.

We believe, that if the Stacked Services rules of engagement are clearly set out and communicated in advance by the industry to all market players, then this information will help to avoid most of the conflicts between market actors and therefore result in a healthy flexibility services marketplace.

Any consideration of service stacking needs to also consider the stacking of P2P services with ESO and DNO services as this combination will be crucial if flexibility is to be cost effective to the ESO and DNO and attractive to the provider of flexibility.