Open Networks Project

Active Power Services Implementation Plan

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WS1A P3

DOCUMENT CONTROL

Authorities

Version	Issue Date	Authorisation	Comments
1.0	17/06/2020	Lois Clark	
1.1	18/12/2020	Vivian Ng	New Template

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1 Introduction

1.1 About ENA

Energy Networks Association (ENA) represents the owners and operators of licenses for the transmission and/or distribution of energy in the UK and Ireland. Our members control and maintain the critical national infrastructure that delivers these vital services into customers' homes and businesses.

ENA's overriding goals are to promote UK and Ireland energy networks ensuring our networks are the safest, most reliable, most efficient and sustainable in the world. We influence decision-makers on issues that are important to our members. These include:

- Regulation and the wider representation in UK, Ireland and the rest of Europe
- Cost-efficient engineering services and related businesses for the benefit of members
- Safety, health and environment across the gas and electricity industries
- The development and deployment of smart technology
- Innovation strategy, reporting and collaboration in GB

As the voice of the energy networks sector, ENA acts as a strategic focus and channel of communication for the industry. We promote interests and good standing of the industry and provide a forum of discussion among company members.

1.2 Our members and associates

Membership of Energy Networks Association is open to all owners and operators of energy networks in the UK.

- Companies which operate smaller networks or are licence holders in the islands around the UK and Ireland can be associates of ENA too. This gives them access to the expertise and knowledge available through ENA.
- Companies and organisations with an interest in the UK transmission and distribution market are now able to directly benefit from the work of ENA through associate status.

1.2.1 ENA members

1.2.2 ENA associates

- Chubu
- EEA
- Guernsey Electricity Ltd
- Heathrow Airport
- Jersey Electricity
- Manx Electricity Authority
- Network Rail
- TEPCO

1.3 Background to Open Networks Project

In December 2016, Energy Networks Association (ENA) members gave their commitment to the Open Networks Project (ONP), a major collaboration that will transform the way that both local Distribution Networks and national Transmission Networks will operate and work for customers.

Launched in January 2017, ENA's ONP has started to lay the foundations of a smart energy grid in the UK.

The Open Networks Project has introduced real momentum into the development work required to enable the UK's energy networks to:

- Facilitate our customers' transition to a low carbon future, including the electrification of heat and transport.
- Address the challenges rising from the continued uptake of local generation.
- Evolve to be market enablers for a whole range of new smart energy technologies.
- Reduce costs to customers by contracting for flexibility services alongside investment in traditional and innovative network solutions.
- Play a key role in delivering overall lowest energy system costs for customers.

1.4 Purpose of this Document

Distribution networks are particularly aware that as market enablers for a whole range of new smart technologies they cannot simply focus on services where they are the principle beneficiary. As natural monopolies, networks have a duty to facilitate peer-to-peer trading of capacity, constraints and even energy for example, in their role as distribution network operators.

This document is an interim report by Product 3 from Workstream 1A of the ENA's Open Networks project. This product is a continuation of work under 2018 and 2019 WS1A P2 that defined four active power service products that all DNOs can procure. In 2019, the team defined a number of requirements for these services and agreed common titles for DNOs to procure these services. As part of the work in 2019, it was identified that these services could be further aligned across networks by standardising more operational, commercial and technical parameters.

This product will deliver further alignment in the procurement of active power services and will simplify participation in the market, making it easier for participants to understand products and offer services to multiple markets appropriately.

2 Scope of the Product

2.1 Product deliverables

Two key deliverables were outlined within the Product Scope, Sub-deliverable a and Sub-deliverable b. The full scope for these is detailed below.

Sub-deliverable a
Develop further common operational, commercial & technical service parameters for active power services

This product will build on WS1 P2 in 2018 which formed the high level basis for four flexibility service products. Best practice will be established based on how these products have been deployed by each DNO.

Inclusions

- Identify further parameters associated with all 4 services and review how each DNO is using them.
- Undertake gap analysis.
- Develop implementation plan for alignment on these parameters and feed it into WS1A consultation in July.

Exclusions

- dispatch, settlement and baselining processes, these are to be addressed in WS1A P7 Baseline methodologies
- Procurement weighting criteria is to be considered as part of WS1A P2 – Procurement Processes.
- Potential future service types, this will be addressed in WS1A P5 – New DSO services.

Assumptions

- All DNO's have adopted the consistent terminology for these active power services as agreed in WS1A P2 2019.

Constraints

- DNOs have varying stages of technological capability, and some services are not currently being actively procured.

Final Deliverable
Identify further parameters within this report to be aligned across the four active power services.

Sub-deliverable b
Review and update implementation plan considering stakeholder feedback and incorporate into Common Flexibility Agreement (ON -WS1A-P4).

Inclusions

- Agree aligned approach for areas identified through gap analysis in sub deliverable a.
- Each DNO to provide a timeline for implementation of good practice, considering impact assessment outcomes.

Exclusions

- None identified.

Assumptions

- Timeline will detail activities at a high level, as the timescales for subsequent changes informed by stakeholder feedback is not yet known.

Constraints

- There is a potential constraint on the availability of staff within each organisation to make the agreed updates to published materials, depending on the extend of the changes following stakeholder feedback.

Final Deliverable
This report, proposing areas for convergence and alignment to simplify the information relating to active power services provided to potential flexibility providers, to be implemented in Autumn 2020.

3 Product timeline

The product team have been engaged monthly through a series of workshops and calls to undertake these activities.

Activity	Date
Agree and finalise product scope	February 2020
Identify further parameters associated with all 4 services and review how each DNO is using them.	March 2020
Definitions and parameters (sub deliverable a) presented to the Advisory Group for feedback	May 2020
Undertake gap analysis.	May 2020
Develop implementation plan for alignment on these parameters	June 2020
Seek feedback on convergence and implementation plan through the Flex consultation	July 2020
Review and update implementation plan based on stakeholder feedback	July - October 2020
Update common contract (WS1A P4) and relevant webpages	October onwards

4 Product Outputs

4.1 Sub deliverable a

4.1.1 Identify further parameters and agree related terminology.

The product group collated terminology associated with Active Power Services and agreed the following definitions of the further parameters to be identified for each service.

The four Active Power services are defined as:

Active Power Service	Definition
Sustain	The Network Operator procures, ahead of time, a pre-agreed change in input or output over a defined time period to prevent a network going beyond its firm capacity.
Secure	The Network Operator procures, ahead of time, the ability to access a pre-agreed change in Service Provider input or output based on network conditions close to real-time.
Dynamic	The Network Operator procures, ahead of time, the ability of a Service Provider to deliver an agreed change in output following a network abnormality.
Restore	Following a loss of supply, the Network Operator instructs a provider to either remain off supply, or to reconnect with lower demand, or to reconnect and supply generation to support increased and faster load restoration under depleted network conditions.

The six parameters proposed for convergence and implementation in relation to these services are defined as:

Flexibility Product Parameter	Definition
Minimum Flexible Capacity	The minimum Flexible Capacity a Flexibility Provider may make Available to the DNO. This can be made up of Aggregated or Non-Aggregated DER's.
Minimum Utilisation	The minimum amount of time a DNO will require the provision of a Flexibility Service from a Flexibility Provider, following a Utilisation Instruction.

Minimum Utilisation Duration Capability	The minimum amount of time a Flexibility Provider must be able continually hold their Contacted Flexible Capacity, in minutes.
Maximum Ramping Period	The maximum allowed time, once a Utilisation Instruction has been issued or becomes active, for a Flexibility Provider to reach their Contracted Flexible Capacity.
Availability Agreement Period	The time period before a Flexibility Service is required by a DNO, in which the DNO and Flexibility Provider may agree the Flexibility Provider's Availability Window.
Utilisation Instruction Notification Period	The time period before a Flexibility Service is required by a DNO, in which a DNO may issue a Utilisation Instruction to a Flexibility Provider for the provision of a Flexibility Service.

These definitions were presented to the Advisory Group in May 2020 and maintain consistency with other definitions provided within Open Networks, the Common Flexibility Agreement and the Distribution Code.

Where possible we will also be looking to implement these common terms around service parameters across to ESO services as well.

4.1.2 Carry out gap analysis and identify areas for further development.

Gap analysis was undertaken to understand how each DNO currently operates these services.

Variance between approaches was significant for some parameters and provided little consistency for flexible service providers to ease interpretation of these services. The following tables highlight the varying approaches for each DNO and each active power service.

Sustain:

Service Parameter	ENWL	NPG	SSEN	UKPN	NIE	SPEN	WPD
Minimum Non-Aggregated Declarable Capacity	50kW	100kW	50kW	10kW	70kW	50kW	No Min
Minimum Aggregated Declarable Capacity	100kW	100kW	50kW	10kW	70kW	50kW	No Min
Minimum Utilisation	30 mins	3 hours	30 mins	N/A	30 mins	30 mins	N/A
Minimum Utilisation Duration Capability	30 mins	30 mins	30 mins	30 mins	30 mins	0	30 mins
Maximum Ramping Period	30 mins	30 mins	30 mins	30 mins	0 minutes	30 mins	N/A
Availability Agreement Period	Contract Stage	Contract Stage	Contract Stage	N/A	Contract Stage	Contract Stage	N/A
Utilisation Instruction Notification Period	Contract Stage	Contract Stage	3 mins	M / W Ahead	Contract Stage	1 day ahead	N/A

Secure:

Service Parameter	ENWL	NPG	SSEN	UKPN	NIE	SPEN	WPD
Minimum Non-Aggregated Declarable Capacity	50kW	100kW	50kW	50kW	70kW	50kW	No Min
Minimum Aggregated Declarable Capacity	100kW	100kW	50kW	50kW	70kW	50kW	No Min
Minimum Utilisation	30 mins	3 hours	30 mins	N/A	30 mins	30 mins	1 hour
Minimum Utilisation Duration Capability	30 mins	30 mins	30 mins	30 mins	30 mins	0	30 mins
Maximum Ramping Period	30 mins	30 mins	30 mins	30 mins	30 mins	30 mins	15 mins
Availability Agreement Period	Contract Stage	Contract Stage	1 Week Ahead	Contract Stage	1 Week Ahead	Contract Stage	1 Week Ahead
Utilisation Instruction Notification Period	Contract Stage	Contract Stage	24 hrs	Real Time	Real Time	1 day ahead	1 Week Ahead

Dynamic:

Service Parameter	ENWL	NPG	SSEN	UKPN	NIE	SPEN	WPD
Minimum Non-Aggregated Declarable Capacity	50kW	100kW	50kW	50kW	70kW	50kW	No Min
Minimum Aggregated Declarable Capacity	100kW	100kW	50kW	50kW	70kW	50kW	No Min
Minimum Utilisation	30 mins	3 hours	30 mins	N/A	30 mins	30 mins	1 hour
Minimum Utilisation Duration Capability	30 mins	30 mins	30 mins	30 mins	30 mins	0	30 mins
Maximum Ramping Period	3 mins	3 mins	3 mins	30 mins	30 mins	3 mins	15 mins
Availability Agreement Period	Contract Stage	Contract Stage	1 Week Ahead	Contract Stage	1 Week Ahead	Contract Stage	1 Week Ahead
Utilisation Instruction Notification Period	Real Time	Real Time	3 mins	Real Time	Real Time	Real Time	1 Week Ahead

Restore:

Service Parameter	ENWL	NPG	SSEN	UKPN	NIE	SPEN	WPD
Minimum Non-Aggregated Declarable Capacity	50kW	100kW	50kW	N/A	70kW	50kW	No Min
Minimum Aggregated Declarable Capacity	100kW	100kW	50kW	N/A	70kW	50kW	No Min
Minimum Utilisation	30 mins	3 hours	30 mins	N/A	30 mins	30 mins	1 hour
Minimum Utilisation Duration Capability	30 mins	30 mins	30 mins	30 mins	30 mins	0	30 mins
Maximum Ramping Period	3 mins	3 mins	3 mins	N/A	30 mins	3 mins	ASAP
Availability Agreement Period	Contract Stage	Contract Stage	N/A	N/A	N/A	Contract Stage	N/A
Utilisation Instruction Notification Period	Real Time	Real Time	3 mins	N/A	Real Time	Real Time	Real Time

4.1.3 Identify dependencies on other Open Networks products and seek alignment.

Outcomes of this product will feed into the Open Networks 2020 programme, specifically: Procurement Processes (WS1A P2); Common Flexibility Agreement (WS1A P4) and Dispatch and Settlement Processes (WS1A P7).

4.2 Sub-deliverable b.

Identify areas for convergence and develop an implementation plan to take forward agreed areas of commonality.

4.2.1 Agreement on areas of convergence following the gap analysis work undertaken as part of sub-deliverable a.

The original set of parameters identified in 2018 has been built on in the below table, with the addition of the six further defined parameters.

Service Parameter	DNO Flexibility Products				
	Sustain	Secure (Scheduled)	Secure (Dispatched)	Dynamic	Restore
When required?	Scheduled forecast overload	Pre- fault / peak shaving		Network abnormality / planned outage	Network Abnormality
Risk to Network	Low	Medium		High	High
Utilisation Certainty	High	High		Low	Low
Frequency of Use*	High	Medium		Low	Low
Minimum Flexible Capacity	0-50kW				
Minimum Utilisation Duration Capability	30 mins				
Minimum Utilisation	15 - 30 mins				
Maximum Ramping Period	N/A	N/A	<15 mins	<15 mins	<15 mins
Availability Agreement Period	N/A	Contract stage	Week ahead	Contract stage if applicable	Contract stage if applicable
Utilisation Instruction Notification Period	Scheduled in advance**	Contract stage	Real Time	Real Time	Real Time

* Frequency is location specific defined at the point of procurement
** Utilisation requirements may differ to schedule and be instructed in real time

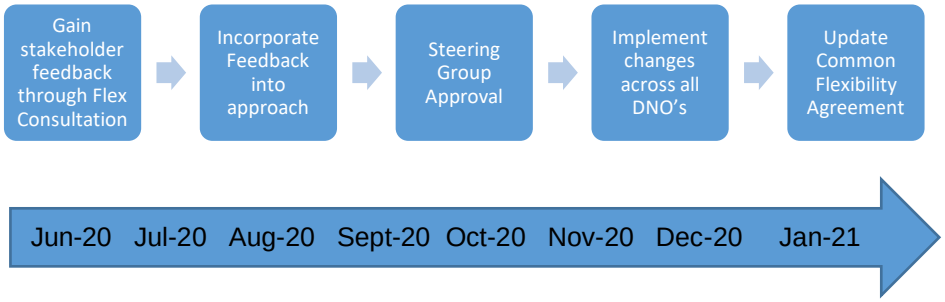
Some key benefits to participants of this convergence, are the removal of minimum capacity values for aggregated services, as the limit has been lowered to 50kW for both aggregated and non-aggregated services, making these services more accessible to all potential participants. The ramping periods for each service have also been aligned to improve consistency of operation, as all utilisation instructions provided in real time, should be able to ramp up to the agreed flexible capacity within 15 minutes of the delivery window.

4.2.2 Each DNO to provide a time line for implementation of alignment across these services.

A risk assessment was undertaken as part of ON WS1A 2019 P2, which identified the potential impact of implementation of the four branded active power services. While this presented some varying degrees of risk due to website updates, and IT changes, the approach taken in 2019 was undertaken with minimal risk and impact, and all DNO's are now using this consistent terminology.

All DNO's view the implementation of these additional converged parameters are relatively low impact and are committed to adopting these in Winter 2020.

The Summer flexibility consultation demonstrated significant support of the implementation of these parameters, and the product aim to help reduce barriers to participation.



4.2.3 Next steps

Following approval of these parameters, the Product team will ensure these parameters are highlighted on the ENA, and individual DNO webpages to help improve understanding of how these services are operated. We will also be including a summary of ESO services alongside these 4 products, to further improve the information available to potential flexibility providers on what services they may be able to provide, and to whom.

Work will continue in order to achieve alignment across service parameter definitions in both ESO and DNO markets and to display service parameters for ESO products alongside DNO products to improve clarity to potential flexible service providers on what markets and services they may be able to participate in.

Ongoing reviews will be undertaken within 2021 WS1A P5 to support ongoing governance of the parameters and to ensure they remain fit for purpose.

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