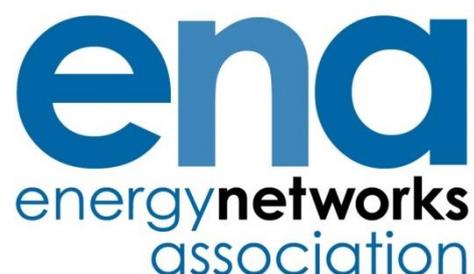# The Voice of the Networks

Open Networks
Workstream 1 (T-D Processes)

Product 2.2:
DER Services Procurement –
End-to-End Process Description

Document Control

Version	Issue Date	Author	Comments
0.1	12/11/2018	ENA	First draft: Translation of agreed PowerPoint process into Word format
0.2	29/11/2018	ENA	For WS1 comment
1.0	11/12/2018	ENA	WS1-approved version

Contents

1. Introduction

This report sets out a high-level end-to-end process for the definition and procurement of DSO services to manage distribution network capacity, and other DSO operational issues. It is anticipated that this process will form the basis for a consistent approach by DSOs as they develop their capability to harness flexibility services to manage their networks.

Where Open Networks products are referenced, these are with regard to the project's 2018 work plan.

The high-level end-to-end process is split into two parts. The first part (described in section 2) covers the development of new services - the expectation is that this part of the process would be used only occasionally, where existing services do not meet the needs of the DSO. The second part (described in section 3) covers the process of testing the market and deciding whether to procure, – as such, this part of the process would be used more frequently.

The process mentions both DSO Service Requirements and DSO Product Definitions. The service requirements represent an articulation of how services can meet the specific network need under consideration; and the products represent what would be procured from service providers to meet that need.

2. Process for New DSO Service Development

. The first part of the process, for developing new DSO services, is shown in Figure 1 below – descriptions of each stage follow the diagram:
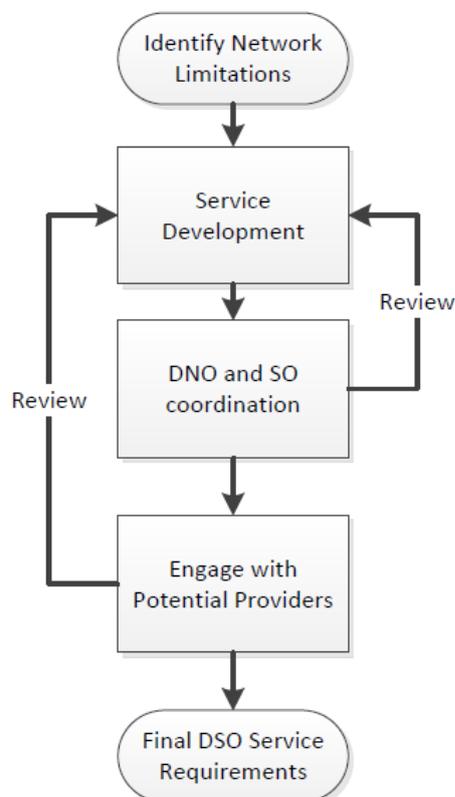

Figure 1: Flow Chart for DSO Service
Definition Process

2.1   Identify Network Limitations

The first step in the development of a new DSO service is to understand the network limitation that needs to be addressed. The assumption here is that a service could serve as an alternative to traditional, asset-based solutions to network issues, or to an existing service; but that there is a need to better understand what the service would be required to do, so that its characteristics could be defined.

Process Step 1	Identify Network Limitations
Description	DSOs identify areas of their current distribution network capability that need to be reinforced to support future change
Inputs	Existing distribution network capabilities; drivers for change from Distribution System Operability Framework (DSOF), Distribution Future Energy Scenarios (DFES), innovation/strategy projects, etc
Forums for Engagement	N/A
Decisions	Types of issues that could be solved through new DSO service(s)
Outputs	List of required distribution network capability enhancements
Open Networks linkages	WS1 P5 (Whole System FES); WS1 P6 (Regional Service Requirements) WS2 P4 (Info on Flex Services)

2.2   Service Development

Step 2 is to take required distribution network capabilities and form an initial view of the required characteristics a new DSO service would need to have, in order to meet the identified network need. To augment that initial view, this stage of the process also features two review loops – one to account for any required DNO and SO coordination; and one to account for feedback and suggested improvements/developments from potential providers of the service.

Process Step 2	Service Development
Description	Identify required characteristics of service from DER
Inputs	List of required distribution network capability enhancements; Feedback from subsequent process steps: - Extent of DSO/ESO coordination required (where relevant – including which services to coordinate) – review following step 3 - Feedback following engagement with potential providers (if required) – review following Step 5
Forums for Engagement	N/A
Decisions	N/A
Outputs	Initial view of DSO Service Requirements; DSO product definition(s)

2.3   DNO and SO Coordination

The third step in the process seeks to understand whether there is a need for, or a potential benefit from, greater coordination with the ESO on either the development of, or procurement of, the new DSO service. There is a reciprocal requirement for the ESO to engage with DSOs to explore the potential for synergies with DSO services; and to ensure that the potential impact of its procurement activities on distribution networks can be understood. By assessing the mutual impact of activities, it will be possible to make any necessary adjustments to the design of the DSO services; and plan to manage potential impacts.

Process Step 3	DNO and SO Coordination
Description	Identify synergies, or requirement for coordination, between needs of DSO and ESO regarding services from DER
Inputs	Initial view of DSO Service Requirements; DSO product definition(s)
Forums for Engagement	Cross distribution/transmission meeting, workshop or other suitable forum
Decisions	Whether DSO/ESO coordination is required, through what governance, and in what timescales
Outputs	Extent of required DSO/ESO coordination (and, if required, which services to coordinate); Feedback for Service Development
Open Networks linkages	[Coordinated Services Development paper]
External linkages	National Grid/UKPN "Coordinated Services Development" work

2.4   Engage with Potential Providers

Step 4 is where the initial view of the required DSO service, considering cross-distribution/transmission interactions, is shared with potential service providers. The aim here is to understand the extent to which those potential providers are able to engage with the service; and to understand whether there are refinements that could be made to the service so that, in meeting the needs of the DSO, they are more readily deliverable by the broadest possible range of providers. Note that the intention here is not to favour specific technologies, but to ensure the service is structured in such a way as to maximise participation. Feedback that requires changes to the proposed service would be fed back into step 2.

Process Step 4	Engage with Potential Providers
Description	Test proposed DSO service details with potential providers
Inputs	DSO Service Requirements; DSO product definition(s); extent of required DSO/ESO coordination (and, if required, which services to coordinate)
Forums for	Key DER forums (DG Forum; ADE flexibility working group; EnergyUK Ancillary

Engagement	Services group; Power Responsive)
Decisions	Whether, and if so, what refinements need to be made to proposed DSO services to facilitate DER provision and promote engagement
Outputs	Proposals to revise DSO Service Requirements; proposals to revise DSO Product Definition(s)

2.5 Final DSO Service Requirements

The fifth step delivers the final DSO service design, having accounted for the needs of the DSO, any interactions required with the ESO, and the review and feedback of potential service providers. This stage marks the completion of the process to develop a new DSO service, which can now form an input into the procurement stage of the overall process.

Process Step 5	Final DSO Service Requirements
Description	Deliver final DSO service requirements
Inputs	Proposals to revise DSO Service Requirements; DSO product definition(s); proposals to revise DSO service specification and characteristics; proposals to revise DSO product definition(s)
Forums for Engagement	N/A
Decisions	What refinements to make to proposed DSO services to facilitate DER provision and promote engagement
Outputs	Final DSO service structure

3. Process for DSO Service Procurement

The second part of the process, shown in Figure 2 below, covers testing the market and deciding whether to procure services as an alternative to asset-based solutions to distribution network needs. In contrast to the first part of the process, this part would be expected to be used on a regular basis. Descriptions of each stage follow the diagram:
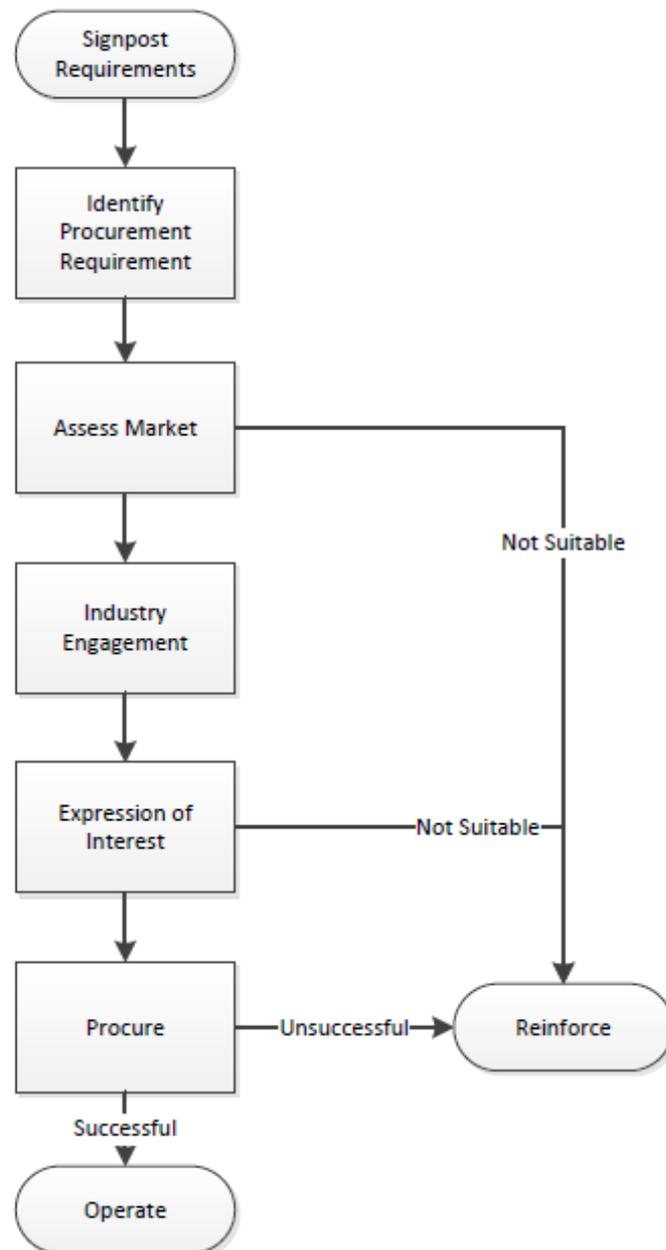

Figure 2: Flow Chart for DSO Service Procurement Process

3.1 Signpost Requirements

Step 1 in the procurement of a DSO service is to clearly articulate the DNO's requirement for that service, in a manner that is readily understandable to potential providers of the service.

Depending on the nature of the service, indicative 'capacity' could refer to real power (MW), reactive power (MVAr) requirements, or something else). DNOs would assess network capacity needs on both a near-term and longer-term basis and provide a clear and robust articulation of these, in a format that can be digested by the wider market. The aim is to allow potential providers to determine the potential scope for service provision, either by existing assets; or those yet to be built.

Process Step 1	Signpost Requirements
Description	Translate distribution network reinforcement requirements into both longer-term and shorter-term network capacity requirements for publication
Inputs	List of required D reinforcements (both near- and longer-term)
Forums for Engagement	Web-based communication; webinar, etc
Decisions	N/A
Outputs	Published articulation of longer-term distribution network capacity requirements, that may be suitable for market-based procurement [or similar]
Open Networks linkages	WS1 P5 (Whole System FES); WS1 P6 (Regional Service Requirements) WS2 P4 (Info on Flexibility Services)

3.2 Identify Procurement Requirement

Step 2 is where the DNO takes distribution network reinforcement requirements and translates them into DSO service requirements which could be procured through competitive means. The expectation here is that those requirements be presented in a clear and transparent way to support industry engagement at step 4, by enabling potential providers to understand how they might be able to deliver against them, in the event that a procurement exercise is launched.

Process Step 2	Identify Procurement Requirement
Description	Convert network capacity requirements into DSO service requirements for procurement - in a way that best enables potential providers to understand how they might meet them
Inputs	Published articulation of distribution network capacity requirements; DSO service specification and characteristics; DSO product definition(s)
Forums for Engagement	N/A – preparatory stage for Step 9 (Industry Engagement)
Decisions	N/A
Outputs	Clear articulation of DSO service requirements that potential providers could meet

3.3　Assess Market

The third step in the process for procurement of DSO services involves the DNO forming a view of whether competitive procurement of services might be an appropriate way of meeting identified distribution network needs. This would be to guard against burdening the market with needs that would be considered unsuitable for service-based solutions.

In the interests of transparency, this should be performed against specific criteria. Such criteria might relate to specific economic or technical thresholds, for example as a way of ensuring requirements above a certain size automatically go forward for a competitive procurement process. Clearly, the lower the threshold, the more requirements that would go forward to potentially be met by DSO Services via competitive procurement.

Process Step 3	Assess Market
Description	Given the articulated requirement, review the relevant distribution network areas to form a view of the scope for DSO services to meet that requirement
Inputs	Clear articulation of DSO service requirements that potential providers could meet
Forums for Engagement	N/A
Decisions	Whether there is enough value in the service/when to go to market. If so, go to Step 9 (Industry Engagement); if not, go to Step 13 (Reinforce)
Outputs	Decision on whether/when to go to market

3.4　Industry Engagement

Step 4 is where DNOs present their requirement for DSO Services to industry, with the aim of generating interest in the provision of those services; and to answer questions from potential service providers. It would be expected that the requirement would be published across a range of different communication channels, along with details of whatever event was being planned to bring the DNO and potential providers together. This step needs to be sufficiently accessible for potential providers, as well as being targeted to promote participation in the right areas of network.

Process Step 4	Industry Engagement
Description	Engage with the industry to present the requirement that the procurement exercise is seeking to meet; answer questions from prospective service providers
Inputs	Clear articulation of DSO service requirements from DER; Decision on whether/when to go to market
Forums for Engagement	Specific stakeholder event/webinar. Publicise via DG Forum; ADE flexibility working group; EnergyUK Ancillary Services group; Power Responsive mailing list, websites, platforms, etc
Decisions	N/A
Outputs	Potential service providers understand the nature of the requirement and details of the procurement process, ready for Step 10 (Expression of Interest)

3.5   Expressions of Interest

The fifth step involves the DNO inviting expressions of interest in providing the DSO service. This semi-formal step allows the DNO to understand the level of interest from potential providers of the service; and therefore, whether a competitive procurement process is likely to be successful. Note that, at this stage, it would not be expected that price information be submitted – whether a DSO service could meet the identified network need would, at this stage, be a purely technical assessment. Further, step 5 helps with the identification of whether a network issue is unsuitable for being met by a service-based approach.

Process Step 5	Expressions of Interest
Description	Invite expressions of interest, including technical service details, from potential service providers.
Inputs	Clear articulation of DSO service requirements that potential providers could meet
Forums for Engagement	Publish on internet, communicate via relevant mailing lists
Decisions	Whether there is sufficient interest/availability/volume to procure a DSO service – leading to Step 11 (Procure), or whether to build assets, to meet the distribution network need – leading to Step 13 (Reinforce)
Outputs	Expressions of interest to provide service, in the form of relevant technical parameters, from potential service providers

3.6   Procure

Step 6 is the point at which the DNO formally issues notice to launch a procurement exercise for a DSO Service. It would be expected that the requirement be advertised in accordance with relevant procurement legislation, and for a time commensurate with both the network need and for potential providers to be able to prepare a suitable tender. Tenders for provision of DSO Services would be assessed against asset-based alternatives to determine the most efficient solution to meeting the network need. The DNO would then proceed with that solution.

Process Step 6	Procure
Description	Formally invite service offers from potential service providers
Inputs	Clear articulation of DSO service requirements that potential providers could meet; Expressions of interest to provide service, in the form of relevant technical parameters, from potential service providers (to inform the procurement exercise)
Forums for Engagement	Publish on suitable procurement platform/internet; communicate via relevant mailing lists
Decisions	Whether it is economic to procure DSO Services, or whether to build assets, to meet the network need
Outputs	Decision(s) to accept formal offer(s) for provision of DSO service – leading to Step 12 (Operate); or decision on how to proceed with build/reinforce options – leading to Step 13 (Reinforce)

3.7 Operate

The seventh step in the process represents the conclusion of a successful DSO Service procurement exercise, where the network is operated on the basis of the DSO Service being available in accordance with its relevant contract terms.

3.8 Reinforce

Finally, step 8 represents the situation where either the network need was found to be (a) not suitable for being met with a DSO Service, (b) suitable for a DSO Service but with insufficient interest in providing it; or (c) suitable for a DSO Service but with asset-based solutions being assessed as more economic.

4. Post-process – Things to Consider

The process set out in this document represents a standardised end-to-end framework for the development and procurement of DSO Services, and aims to cover the key steps that would be required to do so, based on experience to date of both DSO and ESO services. It would be expected that, following each step in the process, lessons learnt would be socialised across the distribution network and service provider community, and accounted for both in future DSO Service procurement exercises, and in the design of future DSO Services.