

# Energy Networks Association

## Open Networks Monitoring Implementation Update

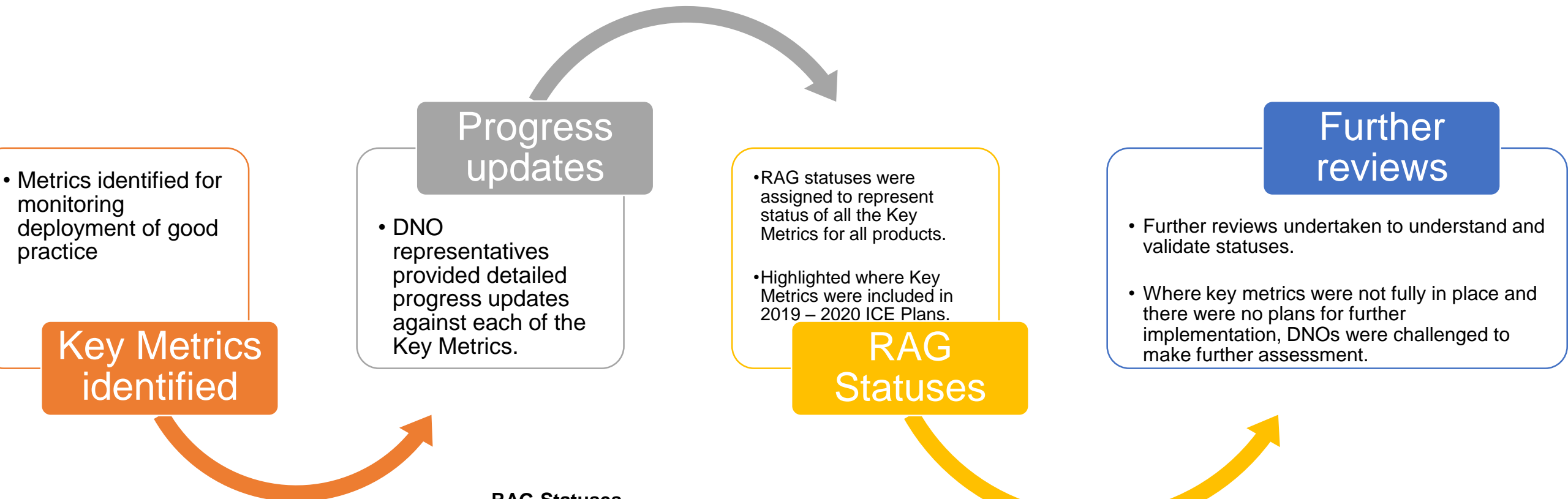
Q2 2019

Monitoring Implementation is a key activity that we have undertaken to review the deployment of practices developed through the Open Networks project in 2018 to give us visibility of progress being made across individual network companies and to understand any barriers to implementation.

These slides cover an update on the following products:

- 2018 WS2 P1 (Good Practice ahead of Connection Applications)
- 2018 WS2 P4 (Information on Flexibility Services)
- 2018 WS2 P6 (Guidance on Post Connection Changes)
- 2018 WS2 P7 (Provision of Constraint Information)
- 2018 WS1 P7 (ANM Information)
- 2017 (Information on Distribution Connections Options)
- 2018 WS1 P2 (DER Services)

As outlined in the 2019 Project Initiation document, we will be undertaking this exercise on a bi-annual basis to monitor the rollout of new products as they get developed.



• Metrics identified for monitoring deployment of good practice

**Key Metrics identified**

**Progress updates**

- DNO representatives provided detailed progress updates against each of the Key Metrics.

- RAG statuses were assigned to represent status of all the Key Metrics for all products.
- Highlighted where Key Metrics were included in 2019 – 2020 ICE Plans.

**RAG Statuses**

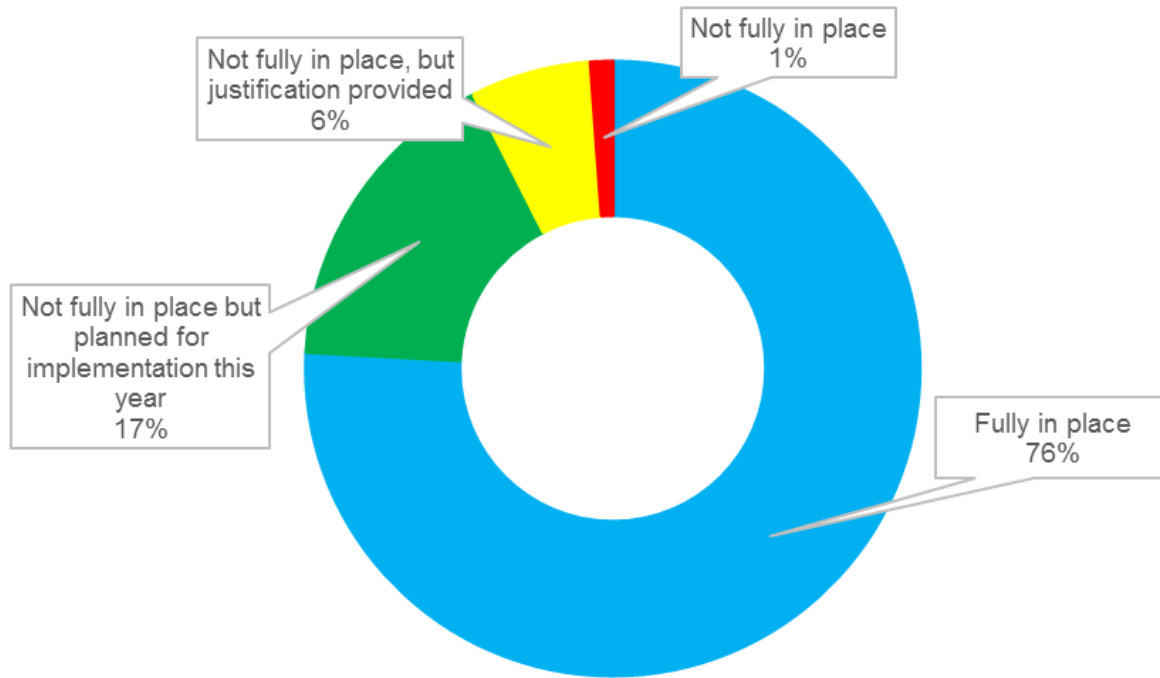
**Further reviews**

- Further reviews undertaken to understand and validate statuses.
- Where key metrics were not fully in place and there were no plans for further implementation, DNOs were challenged to make further assessment.

**RAG Statuses**

Fully in place
Not fully in place, but planned for full implementation this year
Not fully in place, but justification provided for exceptions
Not fully in place
* Will include in 2019 – 2020 ICE

## Overall Implementation Status



Our analysis shows that by the end of 2019, 93% will have completed implementation of good practice identified through the Open Networks project.

The remaining 7% is explained under each of the products in the following slides.

# Good Practice ahead of Connection Applications 2018 WS2 P1

Product	<a href="#">Good Practice ahead of Connection Applications (2018 WS2 P1)</a>	
Metrics	<p>Surgeries</p> <p>Provide</p> <p>a. pre-bookable surgeries and</p> <p>b. Also offer more bespoke meetings at a mutually convenient time and location to cater for all types of customers.</p>	<p>Optioneering approach</p> <p>DNOs offer optioneering approach to allow customers to submit a number of different capacities (min of three per site) for the same site, receive budget costs and progress any one that is viable through a formal offer based on the original submission date.</p>
Summary	All GB DNOs offer surgery on demand for be-spoke consultations. UKPN and WPD no longer offer pre-bookable surgeries based on feedback provided by customers.	All GB DNOs either offer this approach or are planning to implement it this year.
SSEN-D		
SPEN-D		
UKPN	1	*
WPD	1	
NPG		
ENWL		
Notes	1 - UKPN and WPD offer be-spoke consultations and were previously offering on demand surgeries, however, the feedback from customers was that they prefer be-spoke meetings at a time suitable to them and based on this, UKPN and WPD no longer offer this as an option and continue to get positive feedback from connection surgeries.	

# Good Practice ahead of Connection Applications 2018 WS2 P1 (continued)

Product <a href="#">Good Practice ahead of Connection Applications (2018 WS2 P1)</a>							
Metrics	Heatmaps						
	Typically red/amber/green status should be available with a clear explanation of assumptions used for colour coding.	Quantification level of headroom provided.	Provide information for both demand and generation	Information provided down to HV busbars of primary substations with ability to select voltage level viewed.	Map information is refreshed at least monthly	Information available in geographically and in downloadable formats	Information should be based on connected and contracted generation and also takes account of formal connection offers.
SSEN-D		1					2
SPEN-D			3		*		4
UKPN							
WPD							
NPG							
ENWL							
Notes	<p>1 - Headroom can be calculated through available information on SSEN's heatmaps. SSEN are planning to provide further guidance on this, but there is no plan to provide headroom that takes into account fault levels.</p> <p>2 - SSEN's heatmaps data includes connected and contracted demand and generation, however, it does not include formal offers as we quote on contracted position and as such, there are no plans this year to include these.</p> <p>3 - SPEN have no immediate plans to introduce heatmaps for demand. There is not currently sufficient stakeholder interest as demand has not been a major issue in recent years (demand has been falling) and annual maximum demand details are published in the LTDS document.</p> <p>4 - SPEN's heat maps do not take account of formal offers at this time, only the contracted position. SPEN are currently looking at the feasibility of introducing this.</p>						

# Good Practice for Information Provision on Flexibility 2018 WS2 P4

Product	Good Practice for Information Provision on Flexibility (2018 WS2 P4)				
Metrics	Share information on the drivers for the service/the network requirement including whether the needs are a short or long term requirement.	Share information on service requirements including: a. The characteristics required by assets to deliver the service (as described in 2018 WS1 P2) b. Minimum MW thresholds if applicable c. Locational requirements d. Specified service windows – whether requirements vary within the day, week, month, season etc.	Share information on procurement method including: a. Chosen method e.g. competitive tender vs fixed price b. Timeline for procurement exercise c. Assessment criteria for procurement exercise	Share information on payment approach, structure and possible contract lengths, including: a. Types of payments the provider can expect to receive for being on standby and delivering a service b. Whether the prices paid are set or can be specified by potential providers c. Behaviour that would constitute an Event of Default and the associated penalty	Communication a. Maps/graphical representations should be similar if not identical across networks? b. Depending on service type, flag visibility of services both at an early stage (~18 months) and in advance (~6 months). c. Offer one to one meetings to potential providers and allow for more detailed and tailored engagement. d. Set Service Level Agreements (SLA) for response time to queries.
Summary	Most DNOs provide this information through various channels (ITT, Roadmap, D FES etc.).	Most DNOs provide this information through various channels (Piclo, Website, tender documents, Roadmap etc.).	Most DNOs provide this information through various channels (Website, ITT, etc.)	Most DNOs provide this information or plan to provide this through various channels (Website, ITT, etc.)	All DNOs provide this information via Piclo Flex and offer engagement for potential providers and have agreed Service Level Agreements in place.
SSEN-D				*	
SPEN-D					
UKPN					
WPD					
NPG					
ENWL					

# Guidance on Post Connection Changes 2018 WS2 P6

Product	<a href="#">Guidance on Post Connection Changes (2018 WS2 P6)</a>		
Metrics	<p><b>Website</b> DNOs should seek to develop and provide clearer and consistent guidance to customers wishing to make changes to the equipment at their site/connection. DNO websites should have dedicated pages for customer wishing to modify their connection. These pages should provide reference to the legislative requirements, as well as links to relevant supporting documentation.</p>	<p><b>Applications Process</b> DNOs should provide sufficient information and support to enable customers to determine whether or not they should request a new or modification application. DNOs should develop methodologies to allow customers to make a simplified application when seeking to make modifications to their existing connection. This could be by way of shorter more relevant application forms. Application forms and the application process should be amended to make requesting changes clearer and easier.</p>	<p><b>Connection Agreements</b> Connection Agreements should ideally be reflective of the equipment installed and hours of operation of customers' equipment on the connected site where appropriate</p>
Summary	A number of DNOs are planning to make changes to their websites to provide more clarity on connection changes based on good practice. Some DNOs have already improved their connections pages and they plan to continue making further improvements.	All DNOs follow the same process for new and modified connections and provide guidance to customers on requesting changes through a number of channels. Most DNOs are planning to make further changes to provide clarity.	Most DNO connection agreements for generation include equipment installed and hours of operation where applicable, however, not the same level of detail is provided for Demand connections in most cases.
SSEN-D	*	*	
SPEN-D			
UKPN			
WPD	* 1	*	
NPG			
ENWL			* 1
Notes:	1 - Whilst the metric is fully implemented, there is a plan to make further improvements and these are included in the ICE plans for 2019-2020.		



# Provision of Constraint Information 2018 WS2 P7

Product	Provision of Constraint Information (2018 WS2 P7)		
Metrics	<p>Pre-connection: Curtailment Assessment &amp; Timescales</p> <p>a. DNO offers the choice of a minimum 2 of the below options, i.e. DNO Curtailment Assessment and at least one other.</p> <ul style="list-style-type: none"> <li>• DIY Assessment</li> <li>• DNO Curtailment Assessment</li> <li>• Curtailment Index</li> </ul> <p>b. DNOs make high level curtailment assessment information available early in the connection process.</p> <p>c. Depending on customer requirements, DNOs are flexible on timing of when they conduct the more detailed assessment and make curtailment information available.</p>	<p>Pre-connection: Flexible Connection Offers</p> <p>It is considered good practice for network companies to provide the following information in flexible connection offers:</p> <p>a. Explanation of the flexible solution being offered;</p> <p>b. Details of the constraint(s);</p> <p>c. An initial view of the curtailment; and</p> <p>d. Queue position (where relevant).</p>	<p>Post-connection: Notice of Upcoming Outages and Reporting of Actual Events</p> <p>It is considered good practice for network companies to:</p> <p>a. Provide advanced notice of outages with updates as appropriate;</p> <p>b. Provide final update in advance of the outage taking place;</p> <p>c. Establish fora at which connected customers are able to discuss operational issues</p> <p>d. Provide to customers on request, a log of the outages that have impacted their connections. It is recommended that this information be supplemented (for ANM/flexible connections) with details of curtailment events.</p>
Summary	All DNOs offer high level constraint information and offer varying levels of flexibility to customers on the timing of making curtailment information available. Some DNOs offer the options for both, DNO curtailment assessment and make data available for DIY assessment. Other DNOs plan to implement this as a result of the good practice guide.	All DNOs provide this information to customers.	Majority of DNOs provide information to customers on upcoming outages and provide forums to discuss operational issues. Majority of DNOs offer a log of outages to customers upon request.
SSEN-D			
SPEN-D	1		
UKPN			
WPD			
NPG			2
ENWL			
Notes	<p>1 - SPEN currently adopt the DNO Curtailment Assessment approach. Whilst SPEN has concerns with customer confidentiality restrictions regarding network data, it will where specifically requested, be open to having discussions with customers regarding the provision of data to enable them to conduct their own curtailment assessment (i.e. the DIY Assessment approach). This would be done on a case-by-case basis.</p> <p>2 - For ANM customers, NPG have not yet established a formal process for notifying customers of outages that will impact their level of curtailment but does not cause an outage at their site. This process will be established in the coming year, when NPG's off-the-shelf ANM scheme at Driffield is commissioned.</p>		

# Good Practice for Curtailment Process and ANM Reliability

## 2018 WS1 P7

Product	Good Practice for Curtailment Process and ANM Reliability (2018 WS1 P7)								
Category	Curtailment Assessment						ANM Reliability		
Metrics	<p><b>Calculation Principles</b> Good Practice should be built on consistent, clear and open assumptions which allows for easy comparison between curtailment assessments.</p>	<p><b>Use of Half Hourly Analysis</b> Both, load flow based and spreadsheet based, approaches are considered Good Practice depending on the complexity of the network. There are potential future options discussed below.</p>	<p><b>Demand Data</b> Good Practice entails care when preparing demand data using the considerations below to ensure the most representative and accurate input data: a. should be made clear to the customer what data is being used (likely to be a future network configuration with historical or assumed data) b. all historical data is aligned in time, to ensure all macro affects are captured c. should be made clear to the customer that this demand data is subject to change which should make the curtailment better or worse.</p>	<p><b>Generation Profiles</b> Good Practice is considered to use historical data to give the customer the most representative results, however using profile generation data is still a valid approach.</p>	<p><b>Principles of Access</b> Good Practice includes detailed information of the generators ahead of them in the stack as detailed below: a. principles of access should be clearly stated in the offer and the curtailment assessment b. the customers understand who is ahead of them in the stack impacting their curtailment c. assumption of what type of generation is considered in the stack should be stated d. make type of generation and collective size of each type of generator ahead of customer in the stack clear in the curtailment assessment</p>	<p><b>Key Outputs</b> Good Practice should include all of the below in a curtailment assessment: a. Energy volume before curtailment (the assumed generation profile) b. Energy volume after curtailment c. And/or, the curtailed volume of energy d. Indication (probably visually) of the volume of curtailment throughout the year and throughout a day e. Indication of any abnormal running considered f. Outline of the assumptions in the previous sections in the supporting information</p>	<p><b>Curtailment</b> In Good Practice, details of all curtailment actions should be logged with sufficient detail to enable identification of key cause(s).</p>	<p><b>Communications</b> In Good Practice the length of time of a communications outage should be logged with which communication leg caused the issue.</p>	<p><b>System Integrity</b> In Good Practice the central systems should be redundant and covered by detailed SLAs. In the event of a fault this should be logged, resolved and communicated effectively.</p>
Summary	Generally this is in place across DNOs.	Generally this is in place across DNOs with both load flow and spreadsheet based approaches being used as appropriate.	Generally this is in place across DNOs.	Historic generation profiles are widely used by DNOs.	Generally, DNOs have these principles in place and apply them.	Most DNO's provide these outputs.	Most DNOs have confirmed his capability.	All DNOs have confirmed this capability.	Most DNOs have central system redundancy in place
SSEN-D	1	1	3						
SPEN-D					4				8
UKPN									
WPD									
NPG							7		9
ENWL		2			5	6			
Notes	<p>Generally the DNOs are meeting good practice though SSEN and ENWL use curtailment assessment processes that are different from the other DNOs.</p> <p>1- In SSEN's case, it currently provides raw data to developers to carry out their own constraint assessments. In this model, developers make their own assumptions to a large extent. SSEN is considering the feasibility of carrying out the curtailment assessments. SSEN's data provision does not include half hourly information.</p> <p>2- ENWL does not carry out half hour analysis in its approach to curtailment analysis.</p> <p>3- In SSEN's case, it's different approach to curtailment assessment at present means that this is not fully in place.</p> <p>4 - In SPEN's case, it does not provide details of other generation in the stack but provide the in position in the stack due to confidentiality issues.</p> <p>5 - ENWL have not issued stack information to customers at the moment because there is no ANM scheme in place that would require a stack. When the need arise. ENWL will provide the stack information.</p> <p>6 - The ENWL process does not align with the good practice guide. ENWL publish curtailment targets by voltage level, these targets act as an indicator whether reinforcement on the network is required to maintain or improve that curtailment level. The targets are issued initially as generic numbers but are refined year on year based on actual curtailment to specific customers. ENWL have developed their curtailment prior to the good practice guide and believe that it fulfils the spirit of the requirement.</p> <p>7 - NPG will be adopting this going forward however have no plans to retrospectively apply this to older schemes. NPG have not had any requests to do so from existing customer however they would be happy to discuss any customer revised requirements should they arise.</p> <p>8 - SPEN's existing central systems (non-ANM) have full redundancy and are covered by SLAs. SPEN are currently developing central management systems for ANM across their 2 networks areas which, when in place (timescales circa 18mths) will also have full central system redundancy and will be covered by SLAs.</p> <p>9 - NPG's modern ANM scheme has dual redundant central controllers with dual redundant power supplies. NPG also have redundancy in the communications channels from the central controllers to our network management system. Fault logging and resolution timescales for system component failures are currently being developed and will be implemented during 2019</p>								

# DNO Connections Options & DSO Product Definitions

Product	<a href="#">DNO Connections Options &amp; Summary Tables (WS2 2017)</a>
Summary	<i>This document was originally published with the intention to provide guidance to customers on the range of connection options available to customers and the level of security, cost and availability these connection types would provide. All DNOs engage with customers to understand their specific requirements and offer bespoke connections as required. WPD have referenced this document on their website for customers as guidance. WS2 is considering how this document can be best used to provide further guidance to potential customers.</i>

Product	<a href="#">DSO Product Definitions for Active Power (2018 WS1 P2)</a>
Summary	<i>All DNOs procuring services are utilising the active power product definitions developed by ONP. These services do have different titles across some of the network companies in many instances, however. There is some commonality (e.g. Restore) but many variations (e.g. Secure, Continuous, Prepare) where we should try to find convergence to help customers. WS1A is considering how we can best achieve convergence across the DNOs on the titles to simplify the procurement process from a market participants' perspective.</i>