Networks Advisory Group

Meeting 5 Briefing Formation

Wednesday 19 May 2021 | 2.30 – 4.00pm AEDST

Agenda

Item	Lead	Timing
Welcome, Acknowledgement of Country and Safety Moment	John Theunissen	5 min
Project status, reflections from Meeting 4, and the focus for Meeting 5	John Theunissen	10 min
Brief recap of Local Services Exchange process (covered in NAG Meeting 4)	Sean Cumpston	5 min
Introducing proposed network services to be tested in EDGE, and a closer look at how they are defined	John Theunissen / Sean Cumpston	10 min
Discussion/interaction on proposed network services	All – Facilitated by NOUS	20 min
Consideration of a dynamic network pricing/tariff test within EDGE	John Theunissen/Jack San	10 min
Discussion/interaction on dynamic network pricing/tariff test options	All – Facilitated by NOUS	20 min
Wrap up and the look ahead	John Theunissen	5 min

Acknowledgment of Country

We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

We pay our respects to their Elders past, present and emerging.

Safety moment

Recharge days

Incentivising employees to use their recreational leave

A little something to help you recharge!

* Or pro-rata equivalent for part-time employees. Simply have a conversation with your manager to agree when to take your Recharge days, by no later than 30 Sept 2021. See the FAQ on the Loop for more information.

Congratulations!

By taking your 20 days* of annual leave in FY21 you have been awarded...

Four Recharge days*

These days of bonus leave are a reward for using your annual leave to prioritise your health and wellbeing. They also allow us to say 'thank you' for your resilience and ongoing efforts during what has been a challenging year.

Start planning your recharge now!

Project Status, reflections on Meeting 4 and the focus for Meeting 5

Project Status

Current position

- DERMS vendor on-boarding initiated
- AEMO vendor procurement being finalised
- Ongoing stakeholder engagements undertaken
- Knowledge Sharing Partner appointed
- Hume 1 customer sign-ups well advanced

Key upcoming activities

- Potential inclusion of a dynamic network pricing test
- Detailed design workshops with all parties
- Appointment of Cost Benefit Analysis Partner
- Architecture build to support data flows and required functionality

Reflections/summarised outputs from Meeting 4

Reflections

- *Active interest and engagement in the proposed Local Services Exchange process, with the result that we didn't get to cover the detail within the network services part of the agenda*
- *Need to consider "back-up" options for when the market-based services don't deliver the outcomes*
- *What is a service and what is a condition of network connection? (e.g. should voltage management services just be part of a connection agreement? - should reactive support to deal with voltage issues be free?)*
- *Risks in passing over "network responsibility" to Aggregators (Aggregators favour market over network, but network integrity/stability always has priority over market operation)*
- *Management of over/under supply of services needs attention*

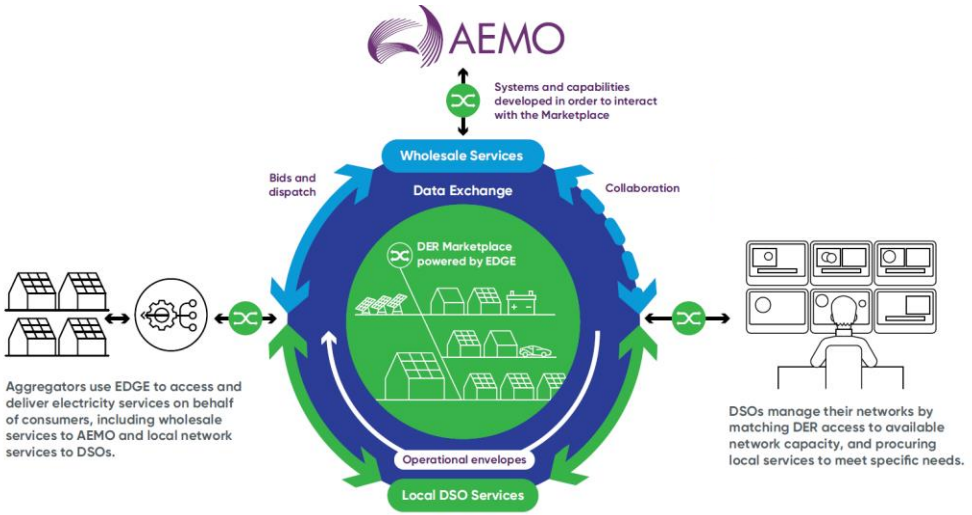
Key outputs/takeaways

- *The discussion highlighted several areas to be considered further within the project activities relating to the distinction between services and future network connection agreement and the potential risks in relying on Aggregator/markets actions to uphold local network integrity – opportunities to gather evidence during the trial around these points.*

Recap of the proposed “Local Services Exchange” process in EDGE

Local Services – Proposed process/roles

Aggregator



Distribution System Operator

View service and assess whether to enrol	**Define**	Define service characteristics and contractual terms
Submit enrolment information and performance test data	**Enrol**	Assess performance test data and pre-approve to participate
Submit offer - if accepted, exchange contracts per pre-agreed terms	**Engage**	Post service opportunity, assess offers from pre-approved participants, exchange contracts
Respond to dispatch signal to deliver service	**Deliver**	Schedule service delivery or trigger dispatch via EDGE
Submit service verification data	**Verify**	Download/view data on EDGE Assess data to verify performance
Set up standard queries for reporting	**Report**	Set up standard queries for reporting

Proposed network services to be tested in EDGE, with a focus on the definition of some of the more “familiar” services

Local Services considered for testing

Primary focus

Capex deferral

- Service as alternative to investing in new network capacity
- Increase generation or reduce controlled load at particular locations

Peak Demand / Generation

- Response during forecast peak demand / generation windows (≈5 p.a.), to reduce the risk of asset failure
- Note that this service is less firm and is likely to have an aligned cost profile

Voltage management

- Reactive power service to manage over/under voltage excursions
- To alleviate binding voltage constraints and unlock further export/import capacity

Planned Outage

- Service to provide capacity for 1-6 week timeframe, to address planned outages

Unplanned outage

- Used reactively with little or no notice to provide capacity to enable the network to be reconfigured

Network Services discussion questions

Suggested topics for discussion

- Reflections on the proposed definition of the local network services – what other approaches might be attractive to test for the industry?
- What suggested techniques or methods could be used to "value" the respective local network services that are to be procured from the market?
- What evidence should we be gathering re delivery of network services? (e.g. relating to the Aggregator supply risk / consideration of the need for alternate back-up supply etc.)
- We foresee challenges in measuring/validating the delivery of certain types of local network services (e.g. involving baselining). How might this be simplified, and what guidance could be offered for the testing within the trial?

Consideration of a dynamic network pricing / tariff test within EDGE

Project Context

The current scope of work in EDGE includes consultation with customers regarding tariff structures, how they can use tariffs and energy use to maximise energy savings.

A wide range of external stakeholder feedback to date on the project has strongly supported including tests of dynamic network pricing/tariffs as a companion instrument to incentivising active DER behaviour to align with available network capacity.

Our initial thinking is to supplement or complement the existing market operating models and local services scenarios and testing within EDGE, and not to create another separate stream of activity.

A draft proposal is to be presented to the May 2021 Project Steering Committee meeting.

It is hoped that the Networks Advisory Group input will help shape the proposal.

Context of Dynamic Network Pricing

Operational Scenarios	Current Mechanisms used to address	Optional Mechanisms being explored
	Reduce Unplanned Networks Cost	
Load at wrong time	1. Structured non-network service procurement	1. Market for non-network service procurement
	2. Policy Limits on Connection	2. Network Operating Envelopes
Too much generation at wrong time	**Reduce Long-Run Networks Cost**	
	1. Annual network tariffs	**1. Dynamic network Pricing**
Incentivise more generation or load at right time	**Reduce Wholesale or Energy Cost**	
	1. Wholesale market (including feed-in tariffs)	1. Ensure feed-in tariff maintains close alignment to market value
	2. Ancillary market	2. Integration of Wholesale Market with DER

Considering what to test in EDGE

Trial Objectives (Why)

Adjust behaviour based on network cost re-allocation for which Purpose?

- *Reduce Long-Run Network cost*
- *Inefficient DER uptake*

Scope of resource targeted?

(a) export change

(b) load change

(c) use of storage

Will this trial:

(1) Test potential for behaviour change?

- *Test threshold for $change*
- *Test volume of change for each $change (firmness and size of response)*

(2) Test 'best' method of dynamic pricing?

Who / How / When?

Principles (What)

- **Who pays, or who should bear the risk?**
- **Customer protections** – who, and when should those people be not affected; any last resort?
- **Who should have 'power' to respond/affect?**
  - *Who is involved*
  - *Who adjusts tariff (eg. not modified by retailer, just done by aggregator)*

Design Options (How)

Frequency of tariff = align with envelope?

Calculate against resource or connection point?

Which resource?

- ***Battery***
- *Solar PV system?*
- *Smart appliances*

How complex is the pricing?

- *by hour bands?*
- *By hour*
- *By 5 min*

Signaling?

- *Week ahead*
- *Day ahead*
- *Real-time*

Trial measurement approach?

- ***Simulated vs real data***
- *Baseline without change*
- *Apply change, with tariff on top*
- *Use cases to be considered*
  - *Sunny/wet/cloudy days*

Dynamic Network Pricing Options - Discussion questions

Suggested topics for discussion

- Is this context for Dynamic Network Pricing appropriate/accurate? What other scenarios or problems are worth considering in which DNP may play a role?
- What should our aims/objectives be for the proposed trial activity?
- What other principles should be introduced for the customer?
- What should be the key parameters in designing appropriate dynamic pricing for the trial, and book-end options?
- What have other networks explored to-date and consider important to consider in the trial?

The look ahead

Anticipated future Advisory Group focus

Operating envelope allocation methods
What to test – coordination with other projects/work

Operating envelope calculation (engine)
Context of leveraging AMI data

Wholesale energy market services operating models
Aligning DSO functions to operating model designs

Local services operating model/s
Treatment of network services as well as local services that are energy market related (local procure/supply transactions to alleviate local constraints)

Local services definition and functionality
- *Services/scenarios to be considered*
- *Forecasting of need*
- *Valuing the service (setting the reserve price)*
- *Service performance evaluation/validation*

Consideration of Dynamic Network Pricing
- *Context*
- *Objectives*
- *Principles*
- *Design*
- *Measurement*

Flexible customer connection contracts for active DER
How to structure and establish flexibility into customer connection contracts for DER that is actively managed

DER-Network-Market optimisation
How to achieve optimal outcomes from network-side activities that influence DER access and market conditions (dynamic voltage management, network reconfiguration etc.)

Check-in on end-to-end design within EDGE
Revisit pertinent aspects within the EDGE detailed design to enhance the value of the trial outcomes

Option analysis and cost-benefit assessment
- *Baseline market outcomes before market + DSO*
- *Incremental market outcomes under Dynamic OE*
- *Incremental market outcomes with wholesale integration (no local market)*
- *As above with whole integration + local market (single/multiple aggregators)*

To be shaped by Advisory Group member input