

## Power Potential Regional Market Advisory Panel

12 February 2020

### Participants:

Panel Chair	Dame Fiona Woolf	Chair, Regional Market Advisory Panel
Panel Members	Alastair Martin	Flexitricity
	John O'Toole	Gresham House
	Fernando Morales	Highview Power
	Andrew Robbins	Innogy
	Chris Buckland	Lightsource BP
	Rickard von Poten	Lightsource BP
	Ian Larive	Low Carbon
	Alex Howard	Origami Energy
	Sammy Blay	Reactive Technologies
	Dimitrios Agriostathis	Vattenfall
	Ned Ponsonby	Zenobe Energy
Representing National Grid ESO	Duncan Burt	Director of Operations
Representing UK Power Networks	Ian Cameron	Head of Innovation and Customer Services
Power Potential project team attendees	Dr Biljana Stojkovska David Preston Dr Rita Shaw Kellie Dillon Mike Robey	Project Lead, National Grid ESO Commercial Lead, National Grid ESO Project Lead, UK Power Networks DER Relationship Manager, UK Power Networks RMAP Secretariat, National Grid ESO
Apologies	Louise van Rensburg Frank Gordon	Ofgem Renewable Energy Association

### Notes and actions:

	<p><b>Project update</b></p> <p><b><u>Site connectivity test at Lightsource BP's St Francis site</u></b></p> <p>RvP shared that it was great progress to be able to shift from lab tests to field tests of communications. The challenge for Lightsource BP now is to tackle response time.</p> <p>CB indicated Lightsource is meeting the service requirements (90% of capacity in 2s), with restricted Mvar range based on 60% of their capacity. They'd like to now work with the inverter manufacturer to meet the service requirements with 100% of plant range.</p> <p>KD thanked Lightsource BP for bringing their controller to the lab, which has been very helpful in smoothing the field test.</p> <p>BS – Javier from Lightsource BP had shared detailed excel spread sheet data of generator speed response with Biljana. Biljana will arrange further discussion with Javier; in general data shows good performance for the restricted range of the plant.</p> <p>CB – There is a risk of voltage over-shooting if the plant goes flat out to deliver the service. Whilst the current situation is OK for the trials, for BAU the response needs to get to 100% (within the response time).</p> <p>BS – The overshooting of the plant is not being seen as a problem by NGENSO. It would be great if all participating DER could test their speed of response.</p>
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**Action: DER invited to liaise with UKPN (Kellie) if they wish to arrange a date/ time to test their speed of response, ahead of these tests occurring during commissioning.**

**DER access to DERMS user interface**

RS indicated DER would have 4-6 weeks of access to the DER user interface before the Optional Trials begin. If they have not already, each DER will need to confirm to UKPN who their nominated contact will be for access to DERMS.

**Fortnightly project newsletter**

Four issues have been shared with the 5 participating DERs (a subset of the RMAP group) since the last meeting. The updates to the project timeline have been valuable, with slippage to the timeline being noted as a big concern.

RMAP members highlighted the benefit in using the newsletter to inform colleagues and to share with prospective clients.

JoT noted he was unaware of the project before the acquisition and noted that there would be interest in other geographic areas, beyond the trial area.

**Action: Agreed to share the newsletter with all RMAP members.**

**Action: KD to forward the 4 previous issues to all RMAP members. (action completed 12 February).**

**Action: Project team to review communication activity to share the project's progress with a wider audience.**

**Power Potential and Stability Pathfinders**

AM challenged on NGENSO's bundling of services within the Stability Pathfinders, with 10 year contracts being offered (which risk locking in higher-carbon sources). SB shared these concerns.

DB acknowledged the potential overlap and noted that Power Potential and the Pathfinders were both testing new approaches. NGENSO is buying as short as it could to secure an operational gap. The ESO strategy is to deliver zero carbon and Pathfinders are just a stepping stone whilst more low carbon technologies come on stream.

BS highlighted that a key distinction between Power Potential and the Pathfinders is that Power Potential is looking at dynamic voltage control (for post-fault services and pre-fault services), whereas the Stability Pathfinders focus on steady state devices (for pre-fault services).

RS and BS highlighted that in Power Potential we use DERMS to enable a wider reactive range from each DER (varying the connection agreement so that the DER does not keep to a fixed power factor).

DP reported that the long-term Mersey tender is generating a good level of participation from all sizes / technology types.

JF queried NGENSO's long term plan for reactive power.

DB stated that NGENSO wants to get to full competition for reactive power and that NGENSO is working towards this from both ends; new innovative approaches for DERs and also changing what is bought from incumbent providers. Lots of learning is being generated from the work with SPEN on power factors in the Mersey Pathfinder, for example.

DB confirmed that further details of NGENSO's reactive power strategy will be published later this year.

**System Readiness**

FW challenged the project team on how confident they are in addressing the remaining activities to complete both DERMS-PowerOn and DERMS-DER UI functionality.

RS stated she was confident and the particular issue that has required DERMS to be re-started regularly has been fixed and that the confidence in the start of the Mandatory Trials is very high ahead of next RMAP. All components needed for commissioning and Mandatory Trials are now accepted on live system, (combination of the December go-live and more recent work with Lightsource), with upgrades to software and configuration being tested now.

**Trial Dates**

SB noted that the revised timeline potentially gives time to engage additional sites to participate in the trials. JF also queried whether other DER can still join.

RS confirmed more DER can still join the project. Late joiners would still need to complete the commissioning and the Mandatory Technical Trials when they joined, but depending on timing they would miss out on the earning opportunity from the Optional Technical Trials.

NP noted disappointment with the delay as they'd already paid out to developers to prepare to participate in the trials.

AH queried the need to wait for 3 DERs before undertaking the Mandatory Technical Trials. RS confirmed this was a good challenge and clarified that only the final elements of the Mandatory Trial involve a collective trial.

BS confirmed that the project has been working to a threshold of 5 DER participating / 40Mvar capacity to undertake the Optional Technical Trials as less than 40 Mvar will be hard to measure at a Grid Supply Point.

DB noted that the Steering Committee would need to make a call before proceeding with less participants.

AH noted he understood this for the market trials, but queried if this was necessary for the technical trials.

KD also highlighted that the Optional Technical Trials are key for DERs to recover their costs of participation and therefore the trial timing seeks to ensure that all 5 DER have the opportunity to access the maximum availability payment for the Optional Trials.

AR and CB noted that it would be far better for the Wave 2 market trials to start in July and not August, given the holidays.

FW agreed and noted that the best learning would come in the summer and asked the project team to declare confidence in the dates for starting the trials.

RS agreed that the project team want the market trials to start as early as possible.

**Market Trials**

BS presented the details of Wave 2 explaining the benefit for both the DER and project team. The presentation was received with great interest and engagement. Biljana and the team will work on publishing a detailed document based on the presentation.

BS confirmed the project team's commitment to the £350k budget available for DER payments during the Wave 2 trials.

BS highlighted that summer was key for the market trials as the reactive power requirement drops away after the autumn clock change. In the market trials, the reactive power purchased is based on the operational reactive power system requirement (then

consideration of budget / value).

The project team will track and report to participating DER each week during the Wave 2 market trials on the status of the remaining DER payments budget.

The Target Average Cost for the Wave 2 market trials ensures that the project team manage the available budget for DER payments and it is also linked to the operational scenarios to be tested during the trials.

SB noted a typo in the table on slide 25. The project team agreed. The first row should read TAC 11, TAC 12, TAC 13, TAC 14 etc.

SB and IL asked whether managing the budget was the only cost consideration, and how this linked to the DER price-discovery objective. SB and NP asked whether any elements of data shared in Wave 2 would or could continue into Wave 3 e.g. TAC range or volume information. This was not planned to continue into Wave 3.

AR queried what would happen if there was a system need beyond the scenarios being tested; would NGENSO use the Power Potential service to secure the system, even in Wave 1 if there was an operational need?

DB responded that in an emergency, yes, NGENSO would. If there was a general need, this is a good question. It could be possible if the Mandatory and Optional Technical Trials go well, but NGENSO cannot commit to this.

BS noted that she would expect to see first the evidence of operational deployment (e.g. a month of Optional Technical Trial results first) before making decision to go directly to secure the system.

DB noted that NGENSO is already learning from the DER dispatch desk within the NGENSO Control Room.

### **Wave 3 Market Trial**

DP presented slides detailing the principles and challenges for Wave 3 as well as existing and new information available associated with voltage spend in the area. This acknowledged that it may not meet the absolute ambition of participants in terms of transparency of voltage actions, but that transparency in this area is improving.

DP highlighted that the new voltage information includes regional data showing the synchronisation costs in accessing reactive power services. It was also noted that these costs are understood following an allocation process undertaken a few days after the purchase by NGENSO control engineers, which tags actions across potentially multiple benefits such as voltage, stability and upward / downward regulation etc.

In Wave 3, use of reactive power services from DER may be affected by a minimum Mvar volume requirement.

NP requested a breakdown of the calculation / logic for the syncing costs (slide 37).

**Action: DP to investigate this request and to report back.**

SB queried what is stopping separating voltage and stability?

DP believed there was an intrinsic link. Learning will influence future Pathfinders, for example, could NGENSO offer either stability or voltage support? But there will be some interaction between them which would need to be factored in.

**Action: All encouraged to explore the data available via the hyperlinks on slides 36 and 37**

**Action: NGENSO to provide further feedback on Dungeness and Shoreham.**

IL queried whether, with all the other challenges for a Control Engineer to handle, would they

bother instructing the Power Potential service?

JF checked that Control Engineers were being trained on Power Potential.

BS confirmed that training is being provided.

**Action: BS to follow up the questions on stability and voltage with Control Room engineers.**

**Action: BS said that NG ESO will continue working on this will share a document providing all details from the presentations on Wave 2 and Wave 3. The DER would be able to use the Wave 2 example and Wave 3 information to prepare for the trials.**

**Any Other Business**

Agreed that the next meeting should be scheduled for after 20 April 2020.

**Action: MR to schedule.**