Incentives Monthly Monitoring Meeting

Meeting Minutes (January 2021-22 Report)

Details

Date:	**Thursday 3 March 2022**	Location:	**Teleconference**
Time:	**10:00 - 12:00**	Meeting Number:	**42**

Agenda

Ref	Time	Title	Owner
1	10:05 – 10:20	**SME slot – Balancing Costs**	ESO
2	10:20 – 10:35	**SME slot – NOA 21-22**	ESO
3	10:35 – 10:50	**SME slot – NIA CrowdFlex**	ESO
4	10:50 – 11:05	**SME slot – GC0137**	ESO
5	11:05 – 11:15	**ESO to highlight notable points from the published report**	ESO
6	11:15 – 11:25	**ESO to take questions on the published report**	ESO
7	11:25 – 11:35	**Ofgem to give feedback on ESO performance**	Ofgem
9	11:35 – 11:45	**Review actions & AOB**	All

Participants

Name	Company
Jenny Mills	NG ESO
Phil Smith	NG ESO
Hannah Kernthaler	NG ESO
Cristian Ebau	NG ESO
Charlie Strange	NG ESO
Laurence Barrett	NG ESO
Nina Klein	NG ESO

Name	Company
Victor Matilla	NG ESO
Rob Wilson	NG ESO
James Hill	Ofgem
Luke Jones	Ofgem
Maryam Khan	Ofgem
Adam Gilham	Ofgem

Actions

Meeting No.	Action No.	Date Raised	Target Date	Resp.	Description	Status
37	**106**	05/10/21	23/11/21	ESO	ESO to investigate possible gaps in the data for Operating Reserve trades volume. Update: Adam Gilham to provide more detail on what's required for this action	Open Closed
41	**121**	04/02/22	28/02/22	Ofgem	For RRE 2B Diversity of service providers, consider if data that is being reported on is suitable, particularly STOR.	Open
42	**122**	03/02/22	10/03/22	ESO	ESO to provide detail on the drivers of the higher margin price in January	Open
42	**123**	03/02/22	10/03/22	ESO	ESO to provide details of any actions taken in recent months to improve wind forecasting accuracy	Closed
42	**124**	03/02/22	10/03/22	Ofgem	Ofgem to set up regular balancing cost sessions with the performance panel	Closed

Discussion and Questions

1. Balancing Costs

Hannah Kernthaler talked through the January balancing costs, highlighting the main drivers of performance. Total balancing costs increased £40m from December to £370m in January. The increase came in non-constraint costs as a result of both higher wholesale prices and periods of scarcity pricing in the BM when margins were tight.

This was the first month of 2021-22 when the volume of constraint actions was higher than the same month last year. This was driven by very high wind output in January 2022, particularly in Scotland.

STOR costs increased this month due to a change in the buy order methodology, but overall reserve costs were controlled as a result of the same change in methodology. As outlined in the January report, the average cost avoidance resulting from the STOR procurement strategy was nearly £1m per day. This is one clear example of the types of actions the ESO takes on a regular basis to manage costs through the year.

Hannah talked through a number of other cost savings actions taken by the ESO during January.

Question	ESO response
Constraint costs went up this month, driven by higher wind generation output compared to the previous month. How much of the increase in costs was due to the ESO having to turn down wind output, and how much was due to the cost of replacement energy being higher?	The biggest increase in constraint costs was for Scotland which indicates that increased wind had the bigger impact. But the cost of replacement energy was also higher than previous months, so this was also a factor.
Looking at the increase in margin price – how much of this is driven by scarcity pricing, and how much is due to the impact of higher gas prices on the price of electricity? Did the median margin price increase significantly, or was it due to a few spikes on certain days?	ESO to provide a response in writing.
Have the increasing wholesale and BM prices, and the high balancing costs over recent months prompted the ESO to try any different approaches, either in terms of actions or overall strategy?	The STOR methodology change is one example of something we're doing differently to respond to higher prices in the BM. The ESO is currently carrying out a balancing market review to investigate the high costs in recent months. There are also a number of projects and activities relevant to this question – the new Market Strategy team is looking at broader trends, the Net Zero Market Reform project is looking at future market design, and the Operability Strategy Report also considers future system needs.

2. NOA 21-22

Victor presented on the Network Options Assessment (NOA) following the January publication. He talked through the NOA 2021-22 options submitted and which of those would proceed.

The 2021 Future Energy Scenarios (FES) showed significant increases in renewable generation, as compared to the FES 2020. During the analysis high constraints were seen in later years from 2030 especially across the B8 boundary (North of England to Midlands). The analysis also showed how there was a significant need to deliver new circuits in the central belt region on their earliest in service date (EISD) to unlock the flows from the north to south of the country. The four eastern links submitted by the TOs continued to provide high benefits and should be delivered on their EISD. Furthermore, outage optimisation both in the north and south of the country was done, in collaboration with the TOs in order to provide the greatest value to consumers.

Consumer benefit is calculated with the concept of 'anti-regret', represents a comparison between doing the most economical recommendation with the more inefficient recommendation i.e., 'critical' options that received a recommendation of "Proceed" would be "Delay" and vice versa.

The ESO is working on improving the Electricity Ten Year Statement (ETYS) and NOA accessibility. We are developing an interactive map on our website to show ETYS and NOA outcomes. This will allow stakeholders to understand how the system needs outlined by the ETYS, are fulfilled by the recommendations in the NOA. This will be an outcome of stakeholder feedback, which will be able to bridge the gap into how both publications work together. The map will allow stakeholders to switch between both ETYS and NOA seamlessly, to show how they interact with each other. We will also consider including the FES in the future to further enhance the understanding of the network planning process.

The Network Development newsletter, which is sent out on a monthly basis, sends updates to subscribers, on the latest news of ETYS and NOA. The newsletter has continued to grow over the years, with this year seeing an increase of 22% which now consists of over 1600 subscribers, demonstrating the growing interest.

Question	ESO response
What are the ESO led options which were recommended to proceed?	There are 8 in total spread out across the country. These look for ways to reduce the cost of managing constraints through intertrip schemes and decided through a commercial tender process.
Is this the correct timeline: this year's NOA, then the Offshore Coordination review, then the updated NOA?	The NOA will be refreshed in June 2022 to include the impact of Offshore Coordination. Details are still being finalised.

3. CrowdFlex

Nina Klein presented on Phase 1 of CrowdFlex, which is looking at how domestic households can provide demand flexibility to reduce stress on the electricity system.

Phase 1 looked at the impact of switching from flat tariffs to Time of Use (ToU) tariffs, and of one-off flexibility events i.e., 2-hour turn up or turn down. Results showed that electric vehicle (EV) owning households provided much greater flexibility than non-EV households and provided other insights on tariff switching and tariff structure. There are potential benefits to both consumers and to managing the system.

Results from Phase 1 were shared at the Energy Networks Innovation Conference (ENIC) and Phase 2, funded as a SIF Discovery project, will aim to understand ESO and DNO requirements for domestic flexibility services, identify technology and consumer behaviour parameters to explore in a trial and look at statistical modelling of flexibility.

4. GC0137

Rob Wilson talked through Grid Code modification GC0137 which achieves a specification for grid forming in GB. This has attracted international interest as GB is the first country to have achieved this. This is a key piece in the energy transition jigsaw and helps to ensure that the ESO can operate a fully decarbonised grid and deliver on our net zero commitments.

Grid forming is the ability of converter connected equipment (such as renewable generation or interconnectors) to provide system stability support in a similar way to conventional generators. Adding a minimum specification for grid forming to the grid code will enable renewable generators and interconnectors in GB to provide stability services alongside operators of synchronous generation.

Question	ESO response
Which markets can providers enter now that this modification is in place, that they could not enter before?	The code modification doesn't set up a market for stability services, but it has agreed a minimum technical specification for HVDC converter connected assets so it facilitates wider participation as these markets are further developed. So this change allows the ESO to get stability services from non-synchronous generation and interconnectors which was not previously possible.

A battery can provide inertia and reduce BM actions for stability. Would the battery need to provide MWs, with headroom and footroom?	Any participant in stability services does need to be operating (to be 'on the bars') to provide response. The principle of grid forming is that a very fast response to frequency disturbances is provided. The ESO worked closely with developers and manufacturers to form this. It is a technology agnostic solution – any parties, including synchronous generators, that can meet the specification can still participate and there is an innovation project underway.
Would existing providers need to install new kit, or verify if their existing equipment meets the standard?	The main principle of grid forming is an updated control algorithm that allows very fast response to meet the specification. For existing equipment, this could be a straightforward change, but it would also need providers to consider what headroom they had operationally and whether, for example, their converter was sized to be able to provide the additional response.
Inertia from synchronous generation is an inherent feature that can't be turned off. With the control algorithm, that's not true, it's synthetic and not a naturally occurring feature. Is there therefore a greater risk, and how is ESO factoring this? i.e. 1 GVAs of natural does not equal 1 GVAs synthetic, so will the minimum GVAs (96?) held on the system need to be increased compared to natural inertia case?	Future markets would be open to any participants meeting the specification and the future market design will consider these aspects. Whilst it is true that there could be some increase in risk this is something to take away in terms of how it is factored into the design - and noting that providing inertia/stability products is not generally the primary reason for plant to run.

5. ESO to highlight notable points from the published report

Jenny Mills talked through the key points from the January 2021-22 report.

6. ESO to take questions on the published report

Question	ESO response
Wind forecasting – the report talks about area of high pressure making it easier to forecast but also the challenge of high wind period – did the high pressure make it easier overall, is that what made it possible to exceed expectations? Are there any actions the ESO has taken in the last couple of months to improve its wind forecasting?	Post meeting response: High pressure in the atmosphere normally brings us bright stable weather with low wind speeds. Due to the nature of the relationship between wind speed and wind turbine power output, certain wind speeds are easier to forecast accurately than others. For example, our forecast accuracy tends to be better in high wind conditions, as some variance in wind speed does not have a significant impact on output when a turbine is already generating at its maximum level. At lower wind speeds, a small weather forecast error will be amplified into a larger wind power forecast error. In these breezy conditions our forecast accuracy tends to be worse.

	In recent months we have been fortunate that the weather has alternated between the very calm conditions that are brought by high pressure weather systems and the very high wind conditions brought by low pressure systems. This has meant that our forecasting performance has been better in recent months in comparison with performance in previous years. One improvement that we have made was to utilise the opportunity that the named storms of Dudley, Eunice and Franklin gave us. These storms brought us particularly high wind speeds and allowed us to see the actual performance of wind turbines under these conditions, and update our models accordingly. This has been especially important for the newer wind farms which have not experienced wind speeds this high before.

7. Ofgem to give feedback on ESO performance

Ofgem noted their appreciation for the ESO's work in the IT space ahead of BP2

Ofgem requested that, if the change to the STOR methodology is a long term change, it could be fed into the design of the new reserve products so that a subsequent update is not needed. The ESO agreed to feed this back to the relevant teams.

8. Review actions & AOB:

- Jenny Mills leaves her current role on 14 March, at which point Laurence Barrett will take over temporarily to lead on the end of year report.
- Balancing costs metric – Ofgem and the ESO agree that the option to change the benchmark for metric 1A will not be taken forward for 2022-23, but will be considered for BP2. Ofgem asked what the ESO plan to cover on this topic in the end of year report. The ESO has a session with the performance panel session on balancing costs planned for March, so this can be used to discuss content for the end of year report.
- End of year event: This will be a virtual event on 8 June 2022, with a similar format to previous incentives virtual events. Videos for each role will be shared before the event. On the day there will be stakeholder and panel sessions and live Q&A.
- Ofgem said that the Energy UK performance panel representative Iona Penman has left the panel and will be replaced by Jack Presley Abbott for the end of year activities.
- Ofgem will set up the regular balancing cost sessions with the performance panel.

Previously Closed Actions

None this week.