

Monthly Monitoring Meeting

Friday 28 February 2020, 10:00 – 12:00

Ofgem Office South Colonnade and Teleconference

AGENDA

Ref	Time	Title	Owner
1	10:05 – 10:25	SME slot – Balancing costs	ESO
2	10:25 – 10:40	SME slot – NOA publication	ESO
3	10:40 – 10:55	SME slot – Network Development Roadmap	ESO
4	10:55 – 11:10	SME slot – BM Wider Access Go-live	ESO
5	11:10 – 11:20	ESO to highlight any particular notable points from the published report	ESO
6	11:20 – 11:30	ESO to answer any questions which OFGEM has sent prior to the meeting regarding the published report	ESO
7	11:30 – 11:40	ESO to take other questions on the published report	Ofgem
8	11:40 – 11:50	Ofgem to give feedback on ESO performance	Ofgem
9	11:50 – 12:00	Review actions & AOB: <ul style="list-style-type: none">• Timings for the end of year event• When will the outcomes of the roles and principles consultation be published	All

Meeting record

Monthly Monitoring Meeting

Date: 28 February 2020
Time: 10:00 – 12:00
Venue/format: Ofgem Offices
Teleconference London

ACTIONS

Meeting No.	Action No.	Date Raised	Target Date	Resp.	Description	Status
22	51	28 Feb		ESO	Confirm how staff moves associated with the Early Competition project will affect the Role 3 ambitions. Confirm whether these positions have been back-filled.	Open
22	52	28 Feb		Ofgem	Ofgem to confirm date of End of Year event	Open
22	53	28 Feb		Ofgem	Ofgem to organise time with panel members for deep dive on balancing costs end of May	Open

MAIN ITEMS OF INTEREST

1. SME slot – January Balancing Costs

The Electricity System Operator (ESO) presenter gave commentary on the £141.2m outturn against £90.7m benchmark.

Key points:

- Balancing cost in January was more expensive than December. The main drivers behind the increase were the costs for constraints which were heavily impacted by the weather.
- On 10 January the Western Link tripped and remained out of service until 8th February increasing constraint costs, however RoCof costs were lower than December and were largely down to this. This was because non-inertia plant was replaced by conventional generation to manage constraints.
- January saw a record month of 2.5TWhs output of Scottish Wind.
- The loss of WHVDC coupled with high wind meant expensive actions had to be taken to manage thermal constraints, thus driving balancing costs up.

- Wind output is a massive driver of balancing costs with the three highest cost months coinciding with the highest wind months. The two lowest cost months coincide with the two lowest wind months.

Q&A Section:

Ofgem asked if the ESO had a contingency plan for Western Link outages. The ESO made clear that from an operational standpoint the system is still secure and putting contracts into place is expensive. If there is an issue, the view is that the ESO will reassess outages and possibly recall circuits. However, there are time constraints in doing this and costs increase. Recall times can be anywhere from 4-48 hours.

Ofgem asked if there are any other factors in driving costs on scale to wind. ESO responded that the next tier is circuit outages on the transmission system, followed by interconnectors.

Ofgem commented that the graph appears much different to two years ago. This is because of the increase in interconnectors.

2. SME slot – Network Options Assessment (NOA) Publication

Key points:

- The results from the 2019-20 NOA show a total cost of £11.1bn. This is an increase on last years' recommendations due to TOs providing a greater number of smaller alternative options as well as more long-term high-cost solutions. ESO refined the modelling for commercial solutions and these improvements made the models more accurate
- ESO recommendations included proceeding with 4 offshore Eastern HVDC Links and an onshore route from Scotland to England. A new HDVC Link connecting Suffolk to Kent, a new OHL from Bramford and two new circuits out of South Humber
- The main drivers behind this were increased level of renewables connecting in Scotland. High offshore wind connecting in the East Anglia and south coast regions. Gaps between need and deliverability of asset-based projects filled by ESO-led options
- Consumer benefit in the range of £165m – £956m was identified though three commercial solutions. This is assessed across a period of 10 years from 2023-2033. This is three years later than last year due to refining the process and expected delivery dates. This has reduced some of the benefit gained from the earlier years when compared to last years' analysis.
- Methodology was revised to show more realistic dates to accurately reflect benefits. The document was redesigned and is now aimed at a wider audience

Q&A Section:

Ofgem asked how the ESO led options originate. ESO described that they are currently limited to commercial intertrips. ESO look at areas that are constrained for reinforcements and study their effectiveness to identify what boundary capabilities can be provided. The purpose of NOA is to signal a need for commercial solutions. Once these are tendered for, they are formalised and agreed. They can then form part of the ESO network capability.

Ofgem enquired about the £950m additional consumer benefits savings and what the counterfactual would be to manage the flows. ESO explained we previously calculated the numbers with and without the ESO-led solutions. These can either drive reinforcements earlier as this will relieve constraints on boundaries. Alternatively, they can push reinforcements back because investing assets can be delayed. ESO identified the optimal path based on balancing mechanism costs.

Ofgem asked about managing the balancing mechanism and asset build and if there is a plan in place. ESO described how the pathfinders are covering this and are essentially an extension of NOA. ESO asked Ofgem to encourage the panel members to read the NOA publication.

3. SME slot – Network Development Roadmap

Key points:

- The Roadmap Update sets out progress against the Network Development Roadmap, published in June 2018.
- It looks at alternatives to transmission build and also enhancements to network modelling.
- The Update shares some of the challenges for the ESO are pathfinders, including funding, methodology assessments, connections process, distribution network limitation and connection of 0MW. The ESO are working with Ofgem where appropriate.
- Stakeholders want clarity on the ESO future intentions, easy to understand information, a sense of potential business opportunity and appropriate timeframes for tenders. The Update therefore sets out what the enduring process will be for communicating network needs and tenders.
- The Update also sets future developments to the ESO's analytical tools.

Q&A Section:

Ofgem asked how the ESO will build commercial solutions for constraints into the NOA. Will the NOA publication modelling go further? The ESO clarified that commercial solutions will be considered as part of the broader NOA process. The NOA itself will identify whether there is a need to run a tender for commercial solutions for constraints, and the tender will be announced later in the year (as per the timetable in the Roadmap Update).

Ofgem asked what the ESO means by previous commitments around expanding the scope of the 'NOA process' to include non-network solutions (across transmission and distribution). The ESO clarified that NOA process refers to the NOA but also Pathfinders.

Ofgem enquired if the pathfinders and NOA are planned to remain separate, if not how and when will they come together. ESO commented that the Roadmap Update sets out the processes going forward. There are two parts, the process for constraints, and the second for voltage and stability. These processes will be kept under review.

Ofgem questioned the NOA modelling and if it examines thermal constraints and congestion. ESO clarified that this is mostly on boundary and constraints costs.

Ofgem asked if the pathfinders were discreet studies and ESO explained that the pathfinders are stand-alone projects, because at this stage they are still pathfinders. The constraints process will form part of NOA document itself in the future. ESO further clarified that there is currently no need for the studies to merge into one process and into one document. However, stakeholder feedback will be taken on board and the ESO will look at future modelling work and reporting. By working through the pathfinders, a solution may present itself.

Ofgem enquired how distribution network solutions are proposed in the latest NOA, and how will this be resolved if not. ESO confirmed that this is through the pathfinders. Distribution networks can tender for solutions for pathfinders. Ofgem also wanted to know if non network solutions can be put forward for inclusion in the NOA by industry members other than ESO. ESO clarified that the NOA does not assess non-network solutions directly, but the NOA utilises existing information on the value of commercial solutions to determine whether there is value in launching a tender. Commercial providers would then submit their solutions through the tender. These would then feature in the subsequent NOA. The ESO explained that some stakeholders had fed back that they do not want to provide information without it being directly linked to a commercial outcome for them (i.e. in order to feed in to NOA ahead of a tender). ESO explained that they must run a tender to agree a commercial outcome. This process will be kept under review, in discussion with stakeholders.

The ESO also explained that the work it's doing to develop an Early Competition Plan will also help to provide an opportunity for other parties to tender for network development solutions, particularly very large constraint projects that require build solutions.

Regarding the open networks project, Ofgem questioned how the ESO factored in the value for reinforcement solutions versus third party contracted solutions. How and when was the ESO certain to proceed. ESO confirmed they are involved and working with DNOs for value distribution solutions and risks.

4. SME slot – BM Wider Access Go-live

Key points:

- ESO want to drive down costs for the balancing markets and manage the system in the most effective way. The BM is a flexible market and the ESO are working to encourage competition and deliver benefit to consumers.
- In 2016 the TERRE project was introduced. In 2018 and 2019 various progress was made towards delivery and TERRE is planned to go live in 2020.
- Regarding the Supplier Route (SVA), licensed suppliers can register additional BMUs to participate in the BM. This allows access to both the wholesale and balancing markets. In addition to allowing aggregation of assets across a Grid Supply Point (GSP) Group
- For Virtual Lead Parties, it enables BM, ancillary services and TERRE participation, However, they can only register secondary BMUs and cannot participate in wholesale market. They do not require a supplier's license and are not responsible for Use of System charges
- Web-based API testing environment is ready to go for when these units complete their application and move into the testing and validation stage of the application. Given that no participants are currently ready, and there has not been enough opportunity to test, we are performing further security enhancements, and aim to have this ready by end of May when we expect first participants to be ready to use it. We are effectively opening another access window to the BM which it was not originally designed for.
- We are working with our stakeholders by producing publications, holding forums and testing partner groups. We have been listening to feedback as to how the ESO can improve wider access including unit size limits. This is contingent on work for connection obligations aligning with CUSC and Control Room.
- Challenges the ESO have faced are CMP295 mod being implemented later than expected so there was a delay to the process. Change was underestimated and market participants have been slower to react. Virtual Lead Parties still want access to the wholesale market and ESO are looking at expansion and removing barriers. Additional work needs to be done on the security requirements for a secure system access route.

Q&A Section:

Ofgem asked about feedback from the TSOs using the TERRE platform. ESO commented that the Czech Republic has started to share its KPIs. It has been a slow start with the number of bids and users. However, it is working and functioning with market participants using it. Prices they've experienced are in line with typical balancing costs at the moment, but with more activity the prices will be driven down. Spanish and Portuguese TSOs have delayed their go live and are looking at the end of March. Parallel run testing is well on its way though.

Ofgem enquired if we are getting feedback from RTE on if they are on track for fixing. ESO stated that visits have been scheduled during RTE's parallel run testing. RTE have said that it will be ready 1 July 2020, but there are still challenges. The ESO may have to go live end of June without them if it is further delayed.

5. ESO to highlight any particular notable points from the published report

- The ESO deliverable tracker is live on the ESO website which is updated monthly on the same day as the report.
- The outage cancellation metric now has the number of outages per month for context.

6. ESO to answer any questions which Ofgem have sent prior to the meeting regarding the recently published report

- Concerning the forecasting query, the ESO finds comparing one month forecasting accuracy with another month's accuracy is unreasonable due to the seasonality of forecasting errors. This is reflected in the different monthly targets in the current incentive scheme. The overall trend is that we have seen lots of improvements due to the Platform Energy Forecasting (PEF) project. More context will be provided in our Forward Plan regarding how forecasting has become considerably harder due to increase in renewables and more embedded generators. The PEF roadmap will be covered in the Forward Plan 2020-21 and an updated one will be published.
- All questions apart from forecasting have been covered in the MS Word document and the SME Balancing Cost section.

7. ESO to take other questions on the published report.

None

8. Ofgem to give feedback on ESO performance

- Ofgem's European team have commented that their engagement with the ESO has been frequent and appreciated. However, they are concerned about deliverables and quality. Methodology for market suspension was flagged.
- ESO have had good engagement on Article 18 and good progress with Elexon
- Regarding Clean Energy Package, there is still questions about what will happen with the Article 6 development and restrictions around STOR and Fast Reserve. Stakeholders would like this to be communicated and made clear.

9. Review Actions

Action 48, 49 and 50 are completed.
Action 51, 52 and 53 have been added.

10. AOB

Ofgem to confirm when the End of Year event will take place, after confirming panel availability.

ESO suggested allocating additional time in late May for a deep dive with the panel members regarding balancing costs. This should take around two hours plus time for questions.

11. Answers to questions asked by Ofgem prior to the meeting

- **Balancing Costs:**

- Why were RoCoF costs down in January 2020 compared to December 2019, when there were high wind and high constraint costs seen in January? I.e. what work has been done to decouple high constraint costs with the proportionally high RoCoF costs we have previously seen?

The answer has been provided in Chapter 1.

- Does the ESO have a back-up plan/risk mitigation strategy for when there are unplanned outages on the Western Link HVDC?

We have a risk mitigation strategy for all unplanned outages on the network. If we were to have an unplanned outage on the Western link our mitigation strategy would be to review the outage plan – considering the consumer benefit case for deferring any outages that can be moved to a later date, taking into account the short-term and long-term consumer impact.

The commercial aspect of risk mitigation has been covered in Chapter 1.

- **Forecasting Performance:**

- When do you envisage the Platform for Energy Forecasting (PEF) project to return improved forecasting performances? This question refers to both national demand forecasting and wind forecasting.

Demand forecasting is becoming significantly more difficult because of:

- no visibility of how much distributed generation will run at a given time;
- significant increases in renewable generation.

We will provide further context in our 2020-21 Forward Plan.

The PEF Project will deliver core forecasting capability for ESO by Q4-2020/21 (as per June 2019 roadmap), full scale benefits realisation should be achieved by end of 2021/22. However, as this is an agile project, some benefits are realised before the project is completed:

National Demand Forecasting performance

- We have implemented an improved national demand forecasting process, modelling approach & methodology by introduction of the new demand forecasting tool:

- Between August 2019- Jan 2020, for within-day time scales (4-5 hrs ahead), we have observed a ~27% reduction in large errors (>1000MW) compared to that period of the previous year
- ~4.5% improvement in 12monthly rolling Day Ahead Forecasting performance: error was 549MW in January 2020 compared with 575MW in March 2019;
- ~13% improvement in Day Ahead forecasting performance: average error over April 2016 – March 2019 period was 626MW, and average error for current year to date (April 2019 – January 2020) was 539MW;
- Improved demand forecasting accuracy over the Christmas and new year holiday period - 2019/20 MAE is 14.5% lower than for the same period in 2018/19 and 7.8% lower than the 3-year average for the same period;
- With a better use of technology on the new platform we have delivered ~95% improvement in data processing & forecast computation time;
- Increased the weather forecasts feeds from 6 times daily to 12 times daily;
- Increased frequency of forecast updates from 4 times daily to 24 times daily.

Wind & Solar power forecasting updates

- More frequent PV forecasts (4 times to 24 times daily);
- More frequent wind power forecasts (4 to 8 times daily);
- We are on track to deliver ~50% improvement in wind data processing & forecasting computation time by March 2020.

Market Publications

- Our half hourly embedded forecasts are now updated 24 times a day
- Embedded forecasts available through API;
- 4 additional updates of metered wind power forecasts on BMRS;
- We are now providing an additional update to the day ahead national demand forecast.

- There has been a steady decline in national demand forecasting performance since August 2019. What are the drivers behind this? What are the ESO doing to alleviate this?

There hasn't been a steady decline in the performance. It is not reasonable to compare one month forecasting accuracy with another month accuracy because of seasonality of forecasting errors.

This is reflected in the different monthly targets in the current incentive scheme.

- Referring to your performance report, for wind forecasting what are the timescales for "identifying extra locations to receive weather data" and how confident are you that this will return an improved forecast performance?

Similarly, please provide commentary on your efforts so far to identify “issues with metering data”.

The answer has been provided in the first forecasting performance question.

Appendix 1 – Timetable

1. Annual Requirements

- Monthly
 - 15th working day of M+1 keeps cost basis historic
 - Meeting 20th working day of M+1
- Quarterly
 - 15th working day of M+1 following Q end (Jul, Oct, Jan)
- Half Year Report
 - 15th working day in October (M+1 after half year completed)
- Year End- Ofgem's Proposal
 - 7th May -consultation & draft licence (5 wks after year end)

2019	2019	2019	2019	2019	2019	2019	2019	2020	2020	2020	2020
May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
M	M		M	M		M	M		M	M	
		Q						Q			
					1/2YR						FYR

2. Monthly requirements

Date	Action	Owner	Note
15 th Working Day	Monthly report submission date	ESO	
No later than 5 Working Days before meeting	Provide the Chair with meeting papers	ESO	
20 th Working Day	Monthly Monitoring Meeting	Technical Secretary	
25 th Working Day	Minutes from meeting submitted	ESO	
End of Month	Chair to approve minutes from meeting	Chair	
2 nd Working Day after approval of the minutes	Publication of meeting minutes	Technical Secretary	

3. 2019-2020 Reporting & Meeting Dates

Month	Report Published (15 th WD)	Ofgem Meeting (20 th WD)	Report Type
May	22/05/2019	30/05/2019	
June	21/06/2019	28/06/2019	
July	19/07/2019	26/07/2019	Q1 Report
August	21/08/2019	29/08/2019	

September	20/09/2019	27/09/2019	
October	21/10/2019	28/10/2019	Half Year Report
November	21/11/2019	29/11/2019	
December	20/12/2019	10/01/2020	
January	22/01/2020	29/01/2020	Q3 Report
February	21/02/2020	28/02/2020	
March		28/03/2020	
April			
May			End of Year Report

Appendix 2 – Previously Closed Actions

Meeting No.	Action No.	Date Raised	Target Date	Resp.	Description	Status
20	46	10 Jan	30 Jan	ESO/Ofgem	Ofgem to clarify the requirement for ESO daily balancing cost breakdown data; ESO to consider reporting the data on weekly basis	Closed
20	45	10 Jan	30 Jan	Ofgem	New agenda items: Ofgem to give feedback on ESO's performance in each monthly meeting. ESO to add this to the standing agenda.	Closed
21	48	30 Jan	28 Feb	ESO	ESO to expand the metric to include the number of outages for each month	Closed
21	49	30 Jan	28 Feb	ESO	ESO to provide update for Energy Forecasting Strategic Project	Closed
21	50	30 Jan	28 Feb	ESO	ESO to present the update on the Wider Access project in the next meeting	Closed