Balancing Mechanism System Updates

Successful delivery of Release 4 of the Balancing Mechanism in December 2023

The Balancing Mechanism (BM) refers to a set of software applications used to operate the Balancing Mechanism Market; the main three applications are:

- **System Operation in Real Time (SORT):** System used in the Control Room by the Energy Team to instruct assets - using BOAs (bid offer acceptances).
- **Scheduling Process in a Controlled Environment (SPICE):** Used in the Control Room by the Strategy Team for planning and scheduling assets.
- **Versatile Graphical Instruction Logger (VERGIL):** System used in the Control Room by the Energy Team to dispatch storage assets - batteries, pumped storage etc. – an extension to SORT.

Release 4 which is made up of the following deliverables, **successfully went live** across late November, early December 2023.

Deliverable: VERGIL Single Dispatch (Phase 1)

System enhancement in VERGIL which reduces the time to issue instructions to batteries and small BM Units (BMUs) i.e., from 30 seconds per instruction down to 10, enabling a potential increase from 100 to 300 instructions per day. VERGIL Single Dispatch is an enabler towards introducing the new Balancing Reserve service - a new product that will secure Regulating Reserve on a firm basis at day ahead. The primary software to instruct batteries and small units for Balancing Reserve will be the Open Balancing Platform (OBP), however enabling this functionality in VERGIL will provide further operational support in the Control Room.

Impacts and benefits of this deliverable:

- Improved real-time dispatch of smaller BMUs and batteries.
- Improved cost-order decisions.
- Improved speed to dispatch batteries and small BMUs, which is required to go live with Balancing Reserve.
- Balancing Reserve is expected to reduce balancing costs, delivering a net benefit of £639m across the 4-year period from 2024-27.

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Deliverable: Constraint Management Pathfinder (CMP)

BM Release 4 sees additional features to improve management of Constraint Pathfinder (Intertrip) units, through delivery of a BM-Integrated Energy Management System (IEMS) interface. An intertrip can act to relieve localised network overloads – normally in heavily-constrained areas of the grid – by automatically disconnecting a generator or demand from the system in response to a signal (normally a fault). Intertrips reduce the need for our control room to take potentially expensive action(s) to balance and secure the system in anticipation of a fault.

Impacts and benefits of this deliverable:

- Time saving improvements for the control room by removing double data entry in SORT and IEMS.
- Build on the ~£100m of constraint costs savings already delivered by the Pathfinder so far, as well as supporting the move to a zero-carbon future.

Deliverable: Integration & Decommissioning Enablement

- Open Balancing Platform (OBP) Integration: Interfaces delivered to enable the OBP to bulk dispatch (dispatch multiple units concurrently) small BMUs & batteries improving merit order dispatch.
- Enabling Electronic Balancing System (EBS) decommissioning: Changes made to BM which reduce reliance on EBS, as the programme works to decommission the system.

Impacts and benefits of this deliverable:

- Interfaces to enable OBP to bulk dispatch - estimated £11m savings.
- Part of a larger project that will enable us to retire EBS in 2024, providing a one-off saving of approx. £30.2m for the 1st year and an additional saving of £5.2m for the following 3 years.

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Deliverable: Control Room Improvements

ENCC requested usability improvements to dispatch (SORT) & scheduling (SPICE) tools. The changes implemented deliver improved scheduling of batteries and Contract For Difference (CFD) wind units, and enhanced navigation and situational awareness. These changes will save control room users time, and give them more capacity to focus on merit order dispatch.

Impacts and benefits of this deliverable:

- Reduction of balancing costs (estimated > £2m per year).
- Support increased dispatch efficiency & a reduction in skip rates.