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Balancing Programme: OBP Programme Increment (PI)14 Closure Report

NESO
National Energy System Operator

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Executive Summary

Over the course of Programme Increment (PI) 14 (Oct 24/Jan 25), OBP delivered significant incremental change to the Control Room, with 5 successful releases over the course of the PI. These releases enabled key functionality for the Control Room, allowing for further changes in PI15 and beyond. We have increased situational awareness for control room users, pushed forward with integrations to internal systems, and improved the core capability of the Open Balancing Platform (OBP).

In our efforts to build OBP's capability for users, we have enabled read-only visibility of all other balancing zones, allowing them sight of units across the GB power system and outside of the Small and Battery zones. This is a foundational capability and will facilitate the creation and dispatch of manual instructions, and optimisation in the future.

In addition, we successfully reached a critical milestone with a technical integration with the Data Analytics Platform (DAP). This will facilitate enterprise audit requirements, as well as to serve the wider organisation, enabling the enterprise reporting capability for OBP related data.

Our other significant work this PI was to continue to build OBP's core capability. We released the capability for control room users to view the effect of draft instructions on zones and constraints to increase situational awareness of prospective actions before committing. We also made improvements to the optimisation model, covering a greater number of scenarios to dispatch. All are designed to enhance the value of OBP now and into future PIs, alleviate control room pressures and thereby enabling improved decision making.

Three of our key deliveries, Price Stack, Manual BOAs, and Constraint Management were rescheduled to enable us to support work on Skip Rates. In this period, the Balancing Programme delivered a new Dispatch Efficiency Monitor. In addition, changes were made to legacy systems such as VERGIL to enhance situational awareness and to the Dispatch Advice to enhance support for batteries.

The programme continually assessed priorities, business value and commitments, and determined that whilst Manual BOAs and Price Stack should continue, priority should be given to meeting the remainder of the goals and to support work on Skip Rates. With these replanned tasks being managed within the programme, we expect to deliver these capabilities within the next delivery increment.

In total, we delivered 44 Features/Enablers in addition to a further 6 stretch features against an initial 91 committed at PI14 planning. This is the first time we have dropped below our delivery tolerance as a programme, with a delivery of 55% of expected value but this is considered acceptable, on this occasion, due to re-prioritisation of activity to support activity targeted at reducing skips.

Moving into PI15, we have moved programme focus to the delivery of Non-BM Quick Reserve. This is a transformational service for the control room, and the first time OBP will have taken on a Non-BM service and builds upon our core product architecture to support all services within a single system in a consistent and harmonised manner to improve efficiency, transparency and consistency. With the tight focus on this delivery, we are looking to progress with our roadmap and continue delivering value for the control room, industry, and the nation.

PI Completion Report (What we said & what we did)

PI Objectives Summary

The overall PI14 Objectives are detailed in the table below. The main objective was to build key enablers which will support further transformational change – integration with other systems, bringing visibility of other zones, and reinforcing optimisation.

Committed Objectives (What 'We Said' & What 'We Did')

Intent	Objective	Status	Description	Delivered Value
	I can use OBP for an Improved E2E Instruction Journey		OBP can be used to manually create Instructions for both Energy and system Instructions – and automatically associate instructions with a constraint. **[STRETCH]** OBP now has a price stack that can be used filtered and is a launchpad for manual instructions **[STRETCH]** OBP can monitor its instructions and resolve any stranded instructions.	Price stack and manual BOA creation progressed in development, however, deployment to the Control Room has been delayed to re-prioritisation (see above) and will be enabled in the next PI. The ability to view OBP instructions has been enabled in OBP.

Intent	Objective	Status	Description	Delivered Value
	I can use OBP to Resolve Constraints		OBP will determine if/when a constraint will breach and as appropriate, System tag units, and will not rely on the 'S' tag from BM OBP can be used to monitor constraints and resolve with an integrated Price based E2E instruction journey **[STRETCH]** OBP will intelligently restrict affected units for Energy balancing optimisation, allowing use of constrained units without breaching constraints	OBP has delivered the ability to visualise constraints over time with future projection allowing Control Room to plan ahead in both energy and constraint management. Whilst the ability to issue instructions from within OBP has been delayed (see above), the Control Room can use the increased situational awareness with existing tools in BM to better balance the system. Note, this objective is deemed partially met on its committed targets due to its reliance on the earlier goal; otherwise it would have been set to met.

Intent	Objective	Status	Description	Delivered Value
	I have Situational Awareness to Support my Job		OBP will provide increased profile information and effect of draft instructions before sending for both optimisation runs and manual BOAs. In addition, OBP will be able to operate over clock change periods.	Control Room can view Active Power and Line metering at aggregated zonal and constraints level. In the previous PI, it was available at individual unit level. Further, the impact of draft instructions from optimisation runs are visualised at zonal and constraint level, allowing Control Room to better assess impact across the network. OBP was available to Control Room over the spring clock change period for situational awareness.
	I like to use OBP		The OBP UI flow will become more user-journey based, allowing users to keep the context of instructions, manage restrictions, and be used in greater unity with other control room systems.	OBP UI has shifted to a multi window concept, enabling improved user experience, enabling a more intuitive user/system interaction with existing systems. A new User

Intent	Objective	Status	Description	Delivered Value
				Journey design model has been implemented to further support this.
	I can use OBP to manage the Small Zone		OBP will be able to resolve energy balancing requirements in the Small Zone via Optimisation and E2E Instruction journey without the need to use another system.	Improved optimisation and requirement processing has increased volume/count of instructions for the Small zone.
	Balancing Programme provides support for Skip rates		**NEW OBJECTIVE BROUGHT IN AFTER PI PLANNING** Provide analysis support for Skip rate improvements	OBP team to support developments for skip rate analysis.
	Prove the Fundamentals of OBP Strategic in Azure		We will continue building to Strategic 2.0 architecture, with our first CNI Strategic Application Environment. Alongside this, we will complete a DAP interface to facilitate OBP Auditability in OBP Lite and prepare for development of market participant testing environments.	A key enabler and milestone integrating OBP and Data Analytics Platform has been delivered enabling reporting and audit of OBP instructions (and associated data related to instructions).

Intent	Objective	Status	Description	Delivered Value
	Ready for Future Development		We are looking to develop functionality which will facilitate further releases. This includes building adapters & reporting screens for EDT/EDL, beginning the NBM interfaces and start building the Ancillary Services dispatch journeys.	Continued foundational delivery has progressed in line with roadmap priorities – with particular focus on NBM changes to enable NBM Quick Reserve and foundational changes for EDL/EDT mastership in OBP.
	Further Elaboration of Key OBP Milestones		This includes step change & Modern Dispatch Advisor (MDA) design for E2E OBP operation, resolving constraints using optimisation, and pump storage & wind dispatch.	Design options for step changes and MDA (now known as National Optimiser) have been completed and to be scheduled for development in a future PI. Resolving constraints using optimisation, pump storage instructions and 2ind dispatch continued elaboration in line with the roadmap

Intent	Objective	Status	Description	Delivered Value
	Discover Upcoming Roadmap Items		We are aiming to discover key aspects of the NBM roadmap, including onboarding, the Slow Reserve Service, and transition of existing NBM Services. Alongside this, we will be undertaking discovery on the impacts from EDT/EDL takeover, and wider roadmap validation, with a view towards BP3.	Planning and discovery for transitioning enduring services from ASDP to OBP, as well as enabling new services (NBM Quick Reserve, and NBM Slow Reserve)

 Deliver  Develop  Elaborate  Discover

PI15 Plan (What we commit to do)

PI Programme Plan

At the Balancing Transformation PI Planning Event the team produced the PI Programme Plan. This plan details the PI objectives and the plan of which features & enablers will be delivered by the squads during each sprint of the PI (including the related risks, issues & dependencies to ensure successful delivery).

In the PI Programme Plan the squads committed to delivering 91 features & enablers. Stretch features will be worked on if the squads have available capacity during the PI. This enables a clear focus on the next level of priority.

PI Objectives

Below is an extract of the PI Objectives from the PI Programme Plan. For the commitment (committed/stretch), any items with an asterisk (*) are required achieve the definition of done (to be in production and in use). Items without the asterisk are to be delivered to the definition of complete - completion of system test and may be foundational change for future releases.

PI	Objective	Description	Expected Value
	I can use OBP for an Improved E2E instruction journey*	OBP can be used to manually create Instructions for both energy and system Instructions – and automatically tag based on a constraint. OBP now has a price stack that can be used filtered and is a launchpad for manual instructions.	This will allow BOAs, allowing far greater flexibility for control room engineers to instruct manually outside of an optimisation run, supported by a price merit data set.
	I can operate OBP, hands on, over clock change*	During previous Clock Changes, OBP was operational for situational awareness only. This goal will allow Control Room to directly use OBP to issue instructions.	This will enable OBP to be clock change compliant, allowing for Control Room to use OBP to manage the GB electricity network during these periods. This will providing further uptime to the control room, improving our availability and proving the viability of the platform to be the primary balancing solution for the control room.
	I can manually resolve a group constraint*	Currently control room users cannot use OBP to resolve constraints. This goal aims to deliver this	Managing constraints through OBP is a key point in the platform's journey, reducing reliance on

PI	Objective	Description	Expected Value
		functionality to the control room via a price stack and manual BOA process. **[STRETCH]** OBP will intelligently restrict affected units for energy balancing optimisation, allowing use of constrained units without breaching constraints.	BM and other systems to manage this complex aspect of the energy network. This is an initial delivery that will unlock future capabilities including the ability to optimise within a constraint.
 Develop	I can instruct wind via rule-based method	Compared to other units, there is more complexity to automatically instructing wind units in the Control Room due their nature of not having a consistent baseline and the need to operate with forecasted data. Whilst an optimisation and process model are to be developed to support forecasted units, an alternative system supported process is required to support bulk dispatch of such units.	With the growing significance of wind generation in the GB's energy mix, this rules based bulk dispatch of (forecasted) wind units will enable efficient dispatch of wind units, leading to reduced cost to balancing the network, whilst operating in a manner similar to that of the control room today. It is a key enabler not only to OBP, but UK's net zero targets.
 Develop	I can perform market participant testing for NBM Quick Reserve	This goal is part of the delivery of Non-BM Quick Reserve in June. We need the ability to interface with Market Participants and it is a critical part of the onboarding and prequalification process for NBM Quick Reserve providers.	The ability to perform market participant testing will enable prequalification of prospective NBM Quick Reserve providers. This is a key step to the launch of Phase 2 (NBM) of new Quick Reserve

PI	Objective	Description	Expected Value
			service, as well as serve as the enduring onboarding process following launch
 Develop	I can manage pumped storage units	Pumped storage units are more complex than traditional units as they can operate under different states, and the rules of operations and characteristics of the unit are different depending on the operating states. Transitioning between states require management, as well as instructions may need to be sent in tandem	When deployed, this will allow control room users to instruct a key unit type which is often used in periods of instability. In this delivery, OBP will derive the state of pumped storage units as well as provide situational awareness on operational parameters based on these states. In future delivery increments, the ability to issue instruction(s) based on the states will be delivered. This will prove OBP's capability as the future system for energy balancing and reduce the dependency on existing dispatch systems.
 Develop	I can bulk instruct for non-BM Quick Reserve	The new non-BM Quick Reserve is introduced to the market and will replace the non-BM Fast Reserve ancillary service. OBP will introduce new non-BM capability as well as support new integrations with providers via a new gateway.	When deployed, OBP will support registration and prequalification of non-BM Quick Reserve contracts, as well as receive declarations from providers. With profiling, control room users will be able to quickly dispatch multiple non-Quick Reserve units to manage frequency events.

PI	Objective	Description	Expected Value
		Bulk dispatch capability will be available to Control Room to dispatch non-BM Quick Reserve to support frequency events	
	Ready for future development	This goal covers elaboration and discovery for key future items of the roadmap. This includes Role Based Access Control, National Dispatch Optimiser, and non-BM and BM Slow Reserve.	Key milestones on the OBP roadmap need to be further validated and understood. This process will clarity requirements and produce high level designs to facilitate further discussion, and ensure alignment and progression on the Balancing Transformation Roadmap

 Deliver  Develop  Elaborate

Abbreviations:

- **BM:** Balancing Mechanism
- **BMU:** Balancing Mechanism Unit
- **BP2:** Business Plan 2
- **CHT:** CNI Health Team
- **CNI:** Critical National Infrastructure

- **EDL:** Electronic Dispatch Logger
- **EDT:** Electronic Data Transfer
- **IEMS:** Integrated Energy Management System
- **MDA:** Modern Dispatch Advisor
- **MPLS:** Multiprotocol Label Switching
- **OBP:** Open Balancing Platform
- **PEF:** Platform for Energy Forecasting
- **PI:** Programme Increment
- **SMP:** Single Markets Platform
- **SRE:** Site Reliability Engineer