ESO

Balancing Programme Events 2023 & 2024

Answers to your questions

Introduction

This document holds all the questions we have received during our Balancing Programme events.

You can find out more about our events and what was covered in the Balancing Programme area on the ESO website.

Contents

We have grouped the questions into themes to make it easier to view our responses. We will update this document regularly with responses to all the new questions we receive from stakeholders.

Question themes:

Dispatch Transparency

Received	Question	Answer
27 June	**With respect to constraint management - if an asset is in a constrained zone and marked as 'in constraint' what does that mean? e.g., would you take bids but not offers?**	It means that if it is an export constraint we won't move the unit up, and if the opposite, we won't move the unit down. We take into account the direction of the constraint. The demand pattern may mean the constraint is temporary - it is determined in SORT.
27 June	**Please can you talk through the changes that have increased the volume and number of system-flagged actions being delivered by batteries and how this might change in the future.**	Thank you for your question – we are currently looking into this and will provide a response shortly.

Received	Question	Answer
27 Mar	**For the planned Non-BM dispatch functionality, how will real-time dispatch transparency be shared?**	We are working on the “Discovery” stage of non-BM onboarding roadmap, in line with the rest of the OBP Roadmap. Further details will be shared once the functionality and integration are finalised. For current system dispatch, ASDP instructions are published on the Data Portal within 1 minute. We expect to publish similarly when issuing instructions using OBP, but subject to Discovery. We also have our Operational Transparency Forum which can be used to answer questions on dispatch of non-BM assets.
27 Mar	**When will arming instructions be published from a transparency perspective?**	We have started to publish inter-trip arming data on the portal since 2 weeks ago. The data is located here https://www.nationalgrideso.com/data-portal/constraint-management-intertrip-service-information-cmis The files are updated monthly.
27 Mar	**Wasn't the LCP analysis due in December 2023? Please can you explain what has delayed this so much?**	LCP analysis phase 1 was due to complete in December and has been completed. We are continuing to work with LCP Delta on a second phase of the analysis to ensure the methodology is consistent, its more granular, and includes essential operational data. The methodology has been going through an iterative validation process with our data scientists and Control Room teams over the last couple of months and will be published in May based on a revised plan of delivery with LCP Delta. In addition, key resources within the ESO have been focusing on other industry priorities including GC0166 and the change of the 15-minute rule to 30 minutes which have impacted this delivery.
11 Dec	**Will small BMUs be scheduled for, e.g., the evening peak, then dispatched using bulk dispatch.**	If small BMUs are in merit then they will be scheduled and then dispatched using OBP. The Control room have all had training and have been asked to use OBP as their first dispatch tool for both the Small BMU and Battery zones.
11 Dec	**What is the timescale for implementing any changes following the Dec 15th MEL/MIL guidance?**	We aim to publish this guidance on the w/c 19th December. This is slightly later than originally planned as we had to include EDT guidance too, following feedback from stakeholders.

Received	Question	Answer
11 Dec	**What testing has been done to ensure that the BMRS and other transparency platforms can handle the ~100x increase in BOA data, given they're already struggling with MELS?**	Testing was undertaken with multiple software providers of the EDT/EDL, market participants, and also with Elexon.
11 Dec	**How many ZBEs are there now and what zones/geography does each look after?**	There are two Zonal Balancing Engineers (assistant National Balancing Engineers) and one National Balancing Engineer. The Zonal Balancing Engineer south dispatches the South Conventional Zone, South Wind Zone and the small BMU zone. The Zonal Balancing Engineer North dispatches the North Conventional zone and North Wind zone. The National Balancing Engineer dispatches the pumped storage zone and the Battery zone (both these zones are national).
11 Dec	**With so many BOAs published, will the Operational Transparency Dataset still be kept up to date with Alternative BMU actions?**	Yes, we don't anticipate any changes to the existing transparency dataset due to OBP go-live.
28 Nov	**From Summer 24 will all wind BMU be instructed to follow PN when necessary, or just those in a particular zone / region?**	We don't intend to change the way we manage wind BMUs from an external standpoint. Our release in 2024 is designed to alleviate workload in the control room by automating the actions they take now.
28 Nov	**How will the Fast Dispatch functionality (expected Spring 2024) impact on battery dispatch?**	Fast dispatch provides an enhanced optimisation algorithm targeting the flexibility of fast acting units. This will enable the National Balancing Engineer to manage frequency control using OBP in the first instance and will replace functionality currently provided by Vergil.
28 Nov	**Can batteries and small BMUs in new zones be filtered by location to manage constraints from 12 December?**	All units within a constraint boundary can be identified by a price stack within the current BM systems. If units are tagged as system within a constraint OBP will be made aware of these and will not dispatch those units.
28 Nov	**More detail on the scheduling of storage would be helpful**	We currently do not have visibility of battery reserve and do not have bulk dispatch capability. We are delivering bulk dispatch and in parallel are undertaking some quantitative analysis to enable the ESO to schedule reserve on batteries based on historic performance. This policy change will go-live once approved and close to the time of OBP Bulk Dispatch going live. A system change has been implemented in the BM to enable scheduling of some storage.

Received	Question	Answer
28 Nov	**Can batteries be used for constraints management by August 2024?**	Yes, they can be. If units are behind constraints, they can be tagged as system and excluded from optimisation. However, there is the opportunity to issue manual instructions.
28 Nov	**Can control room still dispatch batteries that are in OBP zones manually?**	Yes, they can. All assets can still be dispatched via SORT.
28 Nov	**It is a fact that energy data transparency leads to more efficient system & lower costs to consumers…what is ESO doing now to release OBP data real time?**	All instructions sent from OBP to BM and on to market participants are published on the BMRS system. The programme continues to be as transparent as possible publishing information on our website and via these engagement events. If there are more specific requirements, please provide your feedback and we will consider this. We will consult internally around future data transparency plans, e.g., for NBM data.
28 Nov	**Will you publish which BOAs were submitted by BDO vs manually?**	The systems involved do hold confidential data and are part of Critical National Infrastructure. We will consult internally around future data transparency plans including this request. Thanks for the feedback.
28 Nov	**Demystifying dispatch: could you publish "requirements" as generated by LDA and as fed into BDO? Real-time ideally, ex-post would also be valuable.**	The systems involved do hold confidential data and are part of Critical National Infrastructure. We will consult internally around future data transparency plans including this request. Thanks for the feedback.
15 June	**Great stats on increase in battery dispatch. Is it possible for future updates to include comparison with other technologies (e.g. CCGTs) and perhaps MWh/MW?**	Very good suggestion, looking at what can share and overlay. And sharing in other forums. Anymore suggestions let us know.

Received	Question	Answer
15 June	**How does the NBE construct programmes for tech grouped zones (Small BMU/BESS) when either zone could flex more or less? Isn't that is what the BDO is designed for?**	The current Balancing Mechanism (BM) System has a despatch algorithm which calculates the programmes for each individual zone. The despatch algorithm runs every 5 minutes. The National Balancing Engineer (NBE) checks the programmes and then issues them to the Zonal Balancing engineers. Once the programmes are accepted by the Zonal Balancing Engineers, they will they then transfer automatically to OBP. The Bulk Despatch Optimiser will sit in OBP and will develop an optimised set of BOAs which are automatically sent back to the BM systems. They are then issued to the BMUs via EDL.
15 June	**How do you consider long actions such as warming thermal plant with respect to skip rates? Pre-procuring headroom means flex doesn't even get chance to be skipped.**	We are very careful with our decisions to either warm or stand down coal units. Prior to warming coal units, the availability of flexible units is considered in the System Operating Plan and can be used to reduce reserve requirements in scheduling timescales. Warming coal may take place up to and beyond 12 hours ahead of real-time and invariably there are occasions where changes can occur via forecasts, redeclarations of BMUs or on the hourly intraday gates which influence decisions closer to real-time. There have been occasions where coal has been stood down and subsequently flexible units have also redeclared their availability down prior to the peak. This is a risk which needs managing and can result in running higher cost units in contingency or Short-Term Operating Reserve to maintain margins.

Received	Question	Answer
15 June	**NBE has more advanced tools for dispatching – can you elaborate** **Expectation of industry that batteries are going to be dispatched more efficiently. Worried that batteries will be ignored if not in Small BMU Zone** **Follow up question – hopefully better with multi dispatch** **Want to see a more efficient utilisation of storage**	A decision was taken earlier this year to move the batteries into a separate zone on the NBE desk, with the intention of improving the despatch of the batteries. The NBE uses an additional tool Vergil which has also been developed this year to enable more efficient despatch of batteries. This despatch performance of batteries has improved with these changes. Following feedback at out latest Industry event we have agreed to prioritise inclusion of the battery zone in the OBP December release, however this is a stretch target for the team and we will confirm in the months ahead. Based on our experience from previous deliveries and in-line with our agile methodologies, our aim is to deliver value early and incrementally, in order to prove that our solutions meet required outcomes in the most efficient and cost-effective way.
15 June	**The skip rate figure considers limitations in tools available to the Control Room like valid reasons (not a skip). This definition completely misses the point.** **We understand human errors happen but care about improvements to ensure dispatching is in merit order. Can skips be redefined to reflect the reality? The quoted 0.4% is not what is going on.**	We do recognise this feedback and the limitations both in the systems and in how this is reported. We are talking around the 10% of actions where the dispatch transparency dataset has a code allocated or not. We will be engaging further on how we explain our actions and any updates to the dispatch transparency dataset and reason codes to be more transparent in this space.
9 Feb	**Do you have any stats on how effective the recent changes made have been on reducing skips rates - especially for batteries!**	We do not currently have stats on this. Our despatch transparency dataset tracks the number of unallocated skips – from October we've seen between 0.4 and 0.3% of actions which are unallocated reason codes. We do not break this down by technology type. To be clear, we are seeking to reduce unallocated skips, there will likely always be occasions when we will need to take actions out of merit depending on the operational situation.
9 Feb	**Can we change the definition of a skip to cover reasons under Frequency - time to make decision, complexity of decisions and efficiency of dispatch process?**	Thanks for the feedback, we will this away and will try to make the terms we use for the classifications more specific and try to explain logic behind skips in more detail.

Received	Question	Answer
9 Feb	**There is a mis match between industry's definition of a skip vs ESO's definition of a skip. Can we provide additional narrative?**	We will continue to publish reason codes for action out of merit order – our regularly reported evidence 2E in our monthly report has between 0.3-0.4% of actions taken out of merit which do not have a reason code assigned. Over the next financial year, we will work to provide additional information and clarification on our despatch decisions and resulting actions. In the September example, 3 of around 2700 total actions did not have a reason code assigned. Providing specific additional narrative against this small number of actions is resource intensive and outweighs the benefit we believe would be achieved.
9 Feb	**Skip rate explanations are qualitative. Tesla would like more objective, measurable metrics around skips. They believe that 70% of actions outside of merit order are marginal and could be interpreted as skips.**	We'd welcome additional ideas for metrics that would be of use to the industry so please do engage and give us your ideas. We'd like to understand what additional transparency you'd like to see and the benefit behind this for the industry. Our new platform will give us auditable reasons for some of the actions taken (documented, logic based bulk dispatch decisions). Moving towards this means the reasons are captured at the time of the decision, providing greater insight into dispatch decisions.

Systems

Received	Question	Answer
27 June	**Do ESO have detailed worked examples of how a day / part of a day is managed from Day-ahead through to delivery, including different stages of the legacy systems / process through to OBP BDO / FD timescales. If not, how best can we learn about this / who best at ESO to contact about this?** **I'm making an observation about the terminology you used - is there any documentation about how you actually manage the system? Where the legacy systems start and end and where OBP comes in with actual examples. That would help us at these sessions to be up to speed more quickly.**	We have provided previous webinars regarding our control centre scheduling and dispatch processes, and these are recorded. Here is a link - Dispatch Transparency Event 23.06.02 – we will consider internally how we might do another learning session in the future. Thank you for the feedback.
27 June	**Will OBP drive to lower balancing cost?**	Over time OBP is designed to reduce balancing costs by providing Control Room engineers with improved decision support tools and better visualisation across BMUs and non-BMUS and multiple services for energy, response and reserve.
27 June	**Is there anything that providers have to change on their systems ahead of the EDL/EDT transition?**	For both EDT and EDL the interface protocols will remain the largely the same. Each participant will be required to prove their ability to connect to the new OBP system prior to cut-over. There will be a series of opportunities before go-live for this test to be performed. Ahead of the Market Participant tests we will be working with all EDT/EDL software suppliers to prove their software against the new system. We will be making contact will all participants to establish the correct points of contact and will then update on our plans as the dates become available.

Received	Question	Answer
27 June	**Could you please give more details on planned developments for constraints management? Is it going to be a separate zone with batteries for each zone or any other solution?**	We have split developments in constraint management into two stages. Currently we use a “node and line” model for constraints. In the first stage we are looking at ways to improve this so that bulk dispatch can take into account the time varying nature of constraints. In the second stage we are working with colleagues from another programme to use a new “look ahead” capability to predict future constraints using a full network model
27 June	**With the OBP changes mentioned in the Current System presentation, will the change actually deliver instructions across all assets / zones or is this a change that will happen subsequently? It was slightly unclear on the slide. Is this expected to increase in merit dispatch?**	OBP will be receiving more data from our current systems so that OBP has more visibility across all zones. This is required for constraint monitoring across the national network. This also builds our capability so that in the future OBP will be able to send manual instructions in other zones.
27 June	**Why do you need to maintain the concept of separate zones? Surely the optimisation, and best / most economic outcome, will be achieved by having all units together? The distinction feels arbitrary and limiting so any extra context if there is any would be helpful.** **Is there a future scenario where Battery and OBP zone could be combined to one OBP Zone? If not is this an OBP shortfall or a market/logistical requirement?**	The configuration of zones in the Balancing Mechanism is historic and not all zones are locational. The small BMU zone, Battery Zone, Interconnector Zone and STOR zones are all national, Wind is split into two zones North and South and we have conventional generation which is split into North and South. There is a national dispatch algorithm which sits above these zones which sets the target for each zone. Instructions are issued per zone to manage workload. There is a future capability which will bring assets within a single group for National Optimisation at the instruction stage but this is later in the roadmap. We need to move functionality across in pieces and have prioritised the Battery and small BMU zones which are the only zones to currently have a bulk dispatch optimisation. We also need to bring non-BM services into OBP to have all assets within OBP before considering National Optimisation for instructions. Any changes to market design could also impact the roadmap and the design of future zone management.
27 June	**For wind BMU’s, you talk about using rules / heuristics. Are you considering alternative ways to manage them better, for example using more real time data and parameters, similar to limited duration assets?**	We are currently looking into improving both the forecasting capabilities for wind, and the process of dispatching based on underlying uncertainty.

Received	Question	Answer
27 Mar	**A mapping of the new and old platforms would be useful**	We have given some high-level views in previous engagements (see December 2023, slide 10). I'm sure you will appreciate we do not give too much detail as these systems are part of Critical National Infrastructure.
27 Mar	**Can I please clarify when Dynamic Services for Non-Balancing Mechanism Participants will transition to OBP? It was mentioned in the OTF last week that it might happen this year but my understanding from today is that it will happen in Autumn 2025?**	We did look at the possibility of moving response earlier but we realised we could not make the necessary architectural changes to support this and so after evaluation we reverted to our original plan.
27 Mar	**RDP Can the DSO handle the situation where an ESO trip instruction affects distribution security? Do we need advanced control at DSO level with the interface to the ESO. Important as more DER connected and covering OBP DER instruction**	Under MWD the ESO doesn't trip the DER but they are reduced in output to zero using the DNO DERMS / ANM. Both partner DNOs involved in MWD so far have built in safeguards at their end to ensure that a MWD instruction will not impact distribution security. The DNO also has an option to make an asset unavailable to the ESO for MWD instruction ahead of time, or in real time, which gives the DNO the ultimate control over the use of an asset in MWD. The RDP, N-3 Operational Tripping Scheme (OTS) has been carefully considered from its inception. The use of N-3 to secure the network is evaluated and coordinated in operational planning timescales between the ESO and DSOs and in operational timescales the ESO contacts the potentially impacted DNO/DSO to get approval to arm the N-3 intertrip on embedded generators. It is the DNO/DSO who confirm that their network is secure and that their operations will not be adversely impacted by the potential triggering of the intertrip. RDPs are being considered and slowly migrated as appropriate into the OBP space. Please refer to the regularly updated roadmap for details.

Received	Question	Answer
27 Mar	**Can you please explain in a little more detail what 'Bulk MVAR dispatch' involved and how the performance savings were achieved?**	Previously Control engineers needed to issue individual instructions to generators to either import or export MVARs. This was done practically by issuing manual instructions from different screens within the BM and due to the time it takes to navigate between the screens they operated with a large volume of screens open. The improved functionality reduces the number of screens and key stroke actions required by control room engineers to dispatch MVARs to generators.
27 Mar	**Not a question but just a comment that slide 13 (the OBP release plan timeline showing changes compared to last time in green/red) is really helpful, thank you!**	Thank you!
27 Mar	**Please can you explain what activities are included in the 'Constraint Management' programme? (as the timeline shows this +1 delay on the timeline). Thank you**	Firstly, we are moving across constraint management for the majority of BMUs and this work is currently in progress. The next phase looks at Wind and requires forecasting capability. So, although we have delayed constraint management by one season, we will get early value but the full benefit is not expected for another season.
27 Mar	**Regarding the movement of constraint management by 1 season - what would the impact be on constraint management costs given that this has been quite a concern?**	This constraint management piece of work essentially moves across our current constraint management processes from the BM to the Open Balancing Platform. Prior to this delivery the Vergil Dispatch tool for Wind will remain available to the control room to help minimise constraint costs until Bulk Dispatch capability of wind is built in OBP. We have taken a decision to bring forward the capability of issuing all instructions in OBP to de-risk failure modes when OBP Strategic goes live. Having all instructions available from one place also improves the control room transition allowing better situational awareness and positive benefits. We are evaluating the balance in these two cases.
27 Mar	**What does 'Automatic restrictions to inter-trips' stand for?**	This is a control mechanism whilst OBP is co-running with other systems to ensure that OBP does not include a unit that is subject to an inter-trip contract within a separate instruction.

Received	Question	Answer
27 Mar	**When exactly will ADSP retire, is there a firm date yet?**	We are currently expecting to retire ASDP by the end of 2025 after the slow and quick reserve services are live, and the MW dispatch and dynamic response have migrated to OBP which is due to be delivered in the Autumn of 2025.
27 Mar	**Is the EAC the same as the OBP?**	No. The Enduring Auction Capability (EAC) is an auction system to deliver co-optimised procurement for our day-ahead Frequency Response and Reserve products. The results of EAC (such as awarded contracts) are integrated with our systems including, but not limited to OBP, BM and Settlement systems.
27 Mar	**What Integration Patterns will be available for Integrating with OBP services?**	To minimise impact on industry participants, OBP will support the existing BM and NBM integration patterns – EDL/EDT and Wider Access API for BM, and NBM/ASDP Web Service integration for non-BM. In the future, we will be discussing options to implement new integration patterns. The Technology Stakeholder Focus Group will be the forum where future integration patterns can be discussed – it has its next meeting on the 22 April 2024. You can sign up to this forum via the following link: Balancing Programme Stakeholder Focus Groups.
27 Mar	**Will OBP hosted on the public Cloud? if yes, then which cloud platform is selected?**	No. OBP is hosted on a dedicated platform within multiple data centres to meet Critical National Infrastructure requirements.
11 Dec	**With the planned speed at which multiple changes are planned, what contingencies are there if any developments are delayed? Also, a request to please provide industry with as much technical specification as soon as possible in advance, as there will likely be considerable work also for providers in order to interact with the new systems.**	The BM systems will continue to be maintained and remain the master system for despatch. This will remain the case throughout 2024. If there are delays with OBP developments, then the BM system can still be used. The Balancing Programme has an ambitious plan to replace functionality in the BM and is currently running on track. We will engage as early as we can regarding technical specifications and any changes that impact customers. We run a technology forum and commit to discuss technology changes within this forum as well as through our wider industry engagement. Please contact the .box.balancingprogramme@nationalgrideso.com for further information.

Received	Question	Answer
28 Nov	**Are there plans to change GC and technical systems to allow decimal BM dispatch?**	Not currently, this is a big change which would impact both BM and settlement systems. It needs to be discussed more widely to understand the benefits and when it may be appropriate to do that. OBP has been designed to be able to provide sub-MW optimisation and is future proofed if that change was implemented.
28 Nov	**We all hope for 12/12 date…however, IF operationally not possible, please advise 6/12 OTF on new date…in new year please (9/1?) so we have support ourselves(!)**	We can confirm OBP went live on the 12/12/23.
28 Nov	**Great to see UAT is going well. Why 25 to 50 instructions per run? Is this what the system needs or driven by the limits of the OBP lite, or something else?**	This is driven by the typical requirement a Balancing Engineer would dispatch to rather than a limitation of OBP lite. The optimiser and instruction algorithm could create more instructions but a larger requirement may adversely affect frequency if dispatched in that way.
28 Nov	**Are there plans to revise EDL and provided clients to be more resilient to the increased number of BOAs and MELs/MILs?**	Not part of our current roadmap, we have said we will honour existing interfaces and will continue to work on that basis, unless something changes. The Technology stakeholder group will be the right place for these conversations in the future, as it will require an industry-wide change.
28 Nov	**No functional change for EDT? What about new API to interface to OBP?**	There are no changes to EDL/EDT in OBP R1.0. OBP will be taking over EDL/EDT for resiliency in 2025. In the future, we are looking at potential changes to the integration subject to industry consultation, but our initial position is to honour the interfaces as they are now.
28 Nov	**Will File Transfer Protocol (FTP) be removed (and when) as underlying technology for EDT message processing? Asking because of issues with EDT not being acknowledged in time.**	Not included in our roadmap at present, but we should include in the Technology stakeholder group conversations.
28 Nov	**Will you consult on design of new APIs replacing ASDP before they reach testing stage? We would like to avoid some problems in the design of the existing APIs.**	We will welcome feedback on what those issues are, and we should discuss this within our technology stakeholder forum to understand any issues with current designs. Our approach is to honour existing interfaces.

Received	Question	Answer
28 Nov	**What is the best way for participants to engage with the ESO on the 'axe the fax' work? Is there a focus group which covers this?**	Technology Forum – Fax replacement was discussed at the first meeting. You can find the details on our website.
28 Nov	**When will the revised MIL/MEL guidance for batteries participating in BM be published, and where?**	We aim to publish this guidance on the w/c 19th December. This is slightly later than originally planned as we had to include EDT guidance too, following feedback from stakeholders. The guidance will be published on our website, an email with the link to it will be sent out to our Balancing Programme distribution list.
15 June	**What is your plan for achieving BM/non-BM combined dispatch? I.e. is there a roadmap for integrating OBP with ASDP?**	We are currently undertaking discovery and analysis to inform the decommissioning plan and migrations to OBP, we don't have a confirmed timeline yet, current projections are to initiate transition in late 2024 and complete by the end of 2025, but we will provide more details at our next quarterly event.
15 June	**When will BM and NBM STOR migrate onto OBP?** **Will the OBP use the same API as ASDP?**	See above for timelines of migrations to OBP. In terms of ASDP Web services, ESO is committed to continue to support the existing interfaces, however, are mindful that there are discussions/requests to change to newer integration protocols (moving away from SOAP etc.). We plan to set up an IT stakeholder Forum to consider this as part of their remit.
15 June	**How will OBP interact with NGESO planning horizons?**	The introduction of OBP will any not change any current processes in regard to our planning horizons.
15 June	**Do you have any information around the depreciation and replacement of PAS?**	We are currently undertaking discovery and analysis to inform the decommissioning plan and migrations to OBP, we don't have a confirmed timeline yet, current projections are to initiate transition in late 2024 and complete by the end of 2025, but we will provide more details at our next quarterly event.
15 June	**Are you trying to reduce the cost and power demand of your data processing costs, or is this currently being seen as negligible cost?**	Data processing costs are not negligible for the solutions we are looking to deliver. Cost reduction is not a main driver in our plans, however, we work on the principle of delivering solutions that meet our requirements and that are cost effective and deliver value for money, e.g. moving PEF to our strategic Cloud solution.

Received	Question	Answer
15 June	**Can the ESO provide a timeline of OBP releases and what the expected impact/improvement is for providers at each release?**	The roadmap provides a timeline of the new capabilities being delivered by the programme. For more description on each release please see the commentary in this report download (nationalgrideso.com). Please note the roadmap will be revised following feedback from this industry event.
15 June	**How will OBP handle instructing from a negative baseline to a positive power? An instruction of this type requires 6 points (points at 0MW) but EDL only has 5?**	OBP will create instructions that conform to BOA structure. Where a unit is at a negative Physical Notification (PN) and were to be instructed to a positive MW (for a period), and return back to a negative PN, it can be formed using 4 Instruction Points (IPs). There is no need to have an instruction point at 0MW. It should be noted that if an IP is required at 0MW, then we would send an IP for 0MW. If it is simply "passing through" 0MW, then no IP would be sent. Internally, we do generate a zero point for Settlement purposes (even for "passing through"), but it is not required to be sent as part of the BOA. Note, if the optimised profile for a unit (from the Optimiser) is complex (i.e. requires more than 5 points), then more than 1 instruction would be created.
15 June	**Does OBP allow BM instructions above the maximum pricing band volume (MWs) as the current system does?**	In our first release, OBP will not utilise MWs above the price band. More specifically, where MWs do not have prices associated, OBP will not utilise those MWs. This is to ensure that Deemed Price/MWs are not utilised automatically without Control Room users being aware. Control Room still have access to MWs without specific prices in BM. Functionality to handle deemed price/MWs will be included in future OBP releases
15 June	**Does OBP have a defined threshold value for pricing out above which an asset would never be instructed?**	Not in Release 1.0. Control Room will be able to see the prices/cost of proposed instructions as part of the process, and if appropriate remove instructions/units from the instructions to be sent.

Received	Question	Answer
15 June	**Which dynamic parameters will the OBP optimiser use in it's algorithm? Can you provide a guidance document on how each of these parameters is considered?**	The following are dynamic parameters that the OBP Optimiser considers: Stable export limit: SEL Stable import limit: SIL Maximum export limit: MEL Maximum import limit: MIL Physical notification: PN Run up rate: RURE (Export) & RURI (Import) Run down rate: RDRE (Export) & RDRI (Import) Minimum flat top time: MFTT (Minimum total length of instructions for a given unit before a change of direction (Export/Import) can be applied) Minimum zero time: MZT Minimum non-zero time: MNZT Maximum delivery volume offer: derived from MEL (implementing the current agreed model for batteries) Maximum delivery volume bid: derived from MIL (implementing the current agreed model for batteries) More detail will be given in the Optimisation Stakeholder Group
9 Feb	**Are there plans to replace ASDP in the near future? Our experience is that it seems to suffer from outages quite often**	Yes, our plan is to eventually migrate all services managed through ASDP over to OBP. We are currently in the early stages of planning this transition, what, how, when, so that we have a clear path to deliver this transition, involving system, process and people changes required. At present, we estimate development of ASDP functionality in OBP will commence around Winter 2024 and may take around a year to complete. We will work on the principle of seamless change to market participants, however, as these plans are firmed up, we will share them with industry for feedback and buy in. On the feedback about often outages, I would be keen to understand this in more detail, so that we can improve the service provided. We have made improvements to the way we perform routine maintenance changes, reducing the timing, frequency, and length for those.

Received	Question	Answer
9 Feb	**Are you keeping EDT/EDL on the participant side long term? If so, how are you avoiding design limitations like only supporting integers.**	For the immediate term we envisage EDL/EDT being retained to provide the functionality needed by ESO and the market. Longer term, our platforms will be reviewed and revised in line with the market needs and technological developments.
9 Feb	**The OBP appears to introduce a new set of rules. Where is it planned to codify these?**	If changes to the Grid Code etc are required, we will initiate these in good time. Where code changes are not required, we will publish examples of how we have implemented the codes.
9 Feb	**Is there a plan to make the OBP logic auditable? OBP will evolve, industry participants need a way to stay informed about the current logic and proposed changes.**	We intend to have interactives days where participants can observe test cases and submit their own. In addition, we will publish details of the implemented logic on our external website.

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Markets

Received	Question	Answer
27 June	**How many MWs expected to be procured of quick reserve from day one, and what's the long-term procurement objective for the service?**	Although not firm we expect that the requirements will be ~500MW positive and ~300MW negative. We will update the market through our usual Market Information Reports (MIR).
27 June	**Are ESO concerned with about the potential loss of flexibility if energy suppliers agree long term contracts with large volume of batteries for balancing their own supply/demand?**	The ESO is the residual balancer where the market is resolving the majority of issues before the ESO needs to be involved. If the ESO is receiving a more balanced market as a result, then this potentially reduces the amount of residual balancing. We do value having flexibility to control assets in the BM. In terms of energy margins and according to the Winter Outlook report the margins for this winter are sufficient.
27 June	**Once OBP replaces SORT, will there be a more efficient, regular onboarding process to register new BMUs into ESOs systems?**	We recognise that BM registration is an area where we and all our stakeholders would like to see improvements. We are looking at how we take forward a piece of work in this area and we have committed resource to take this forward. Very happy to hear from you all on what good looks like in this space so please do come and have a conversation with us.

Received	Question	Answer
27 Mar	**Does MW dispatch not introduce another market distortion? Why not make BM and other flex markets easier to enter and more appealing rather than relying on unpaid flex (ANM) or a ringfenced market (MW dispatch)? Why is there not an equivalent option for demand turn up in these areas?**	MW Dispatch does not introduce a market distortion. It is a congestion management service, specifically targeted to allow faster connections in otherwise congested zones. As with other constraint dispatch activities, the dispatched volumes are posted to the BMRA. MW Dispatch is an important pilot providing practical design solutions to primacy and stackability, and these learning points are being utilised as part of wider ENA industry design activities and will feed into other service design considerations over time. The service itself allows for easy participation for DERs without needing the IT infrastructure required to participate in the BM and is an engine for greater integration between nascent DSO and ESO coordinated control. Whilst some ANM services imposed by DNOs or the ESO are uncosted, the nature of these services is made clear to connection applicants ahead of time and their existence is there to permit early connection. MW-Dispatch is geographically restricted to areas experiencing congestion but is not ring-fenced and with future work on primacy and stackability, should allow greater ability to participate in other balancing service markets in parallel in the future. The ability to include other types of DER including demand-flexibility and storage in MW-Dispatch is a strong possibility as part of future enhancements to the service. Flexibility services have been developed by the DNO and ESO, often to tackle specific issues in a given locality. Lessons may be learned locally with a specific DNO, solving urgent operational issues and providing learnings which can then be worked into broader solutions. This is the principle of RDP. Learnings about stackability and primacy taken from the development of MW-Dispatch are being considered in wider operability and market rules being developed within the ENA.

Received	Question	Answer
28 Nov	**On your spring 2025 slide, you mention NBM quick and slow reserve being introduced. Is this the new timeframe for implementation of these services?**	Yes, these are the dates we are working towards. We are hoping to share more details and engage further through the Reserve Reform team during December and January. Delivery of Non-BM for Quick & Slow in Summer 2025 prior to decommissioning of ASDP by the end of 2025 so that there is a transition period for the services.
28 Nov	**Why is NBM quick reserve delivered later than BM quick reserve?**	Mainly due to the need to integrate the products in our strategic systems rather than legacy systems. BM quick reserve can be supported by OBP in Summer 2024 whereas Non-BM will be supported by OBP in 2025.
15 June	**When will ESO publish more accurate forecasts of DR & DM requirements, as currently the procurement does not relate accurately to the blanket forecast numbers?**	The forecasts that we publish are the target volume that we aim to procure in these markets, this is typically (150 DRH, 180 DRL, 80 DML, 80 DMH). To support efficient auction outcomes, we allow overholding in both DR and DM which means we will procure up to 200MW for DRL/DRH and 100MW for DML/DMH.
15 June	**There was a delay recently announced to Market Wide Half Hourly metering will this have any material impact on National Grid plans in the run up to 2035?**	MWHHS is a key enabler to growing the flexibility markets across GB. Whilst the delay is disappointing, we and industry still know the direction of travel to enabling Consumer Energy Resources to participate.
15 June	**Deciding to delay products e.g. Quick/Slow Reserve to avoid implementing in both the existing system and the OBP - will that lead to any cost savings overall?**	This decision has been taken in light of the significant changes that would have been required in our existing, legacy balancing systems and processes, given the complexity of the new service designs. In the midst of a complex and rapidly evolving systems change environment, we believe it is more prudent to re-evaluate these changes to consider if implementation into our legacy systems is still appropriate, as opposed to direct implementation into our Open Balancing Platform (OBP). There are cost savings associated with not developing reserve on legacy systems that would have included some level of regret spend.

Other

Received	Question	Answer
27 June	For the beyond 2025 sessions will you be sharing all the feedback received and the reasons for those that make it into the roadmap?	Thanks everyone for your engagement in the Beyond 2025 session. We will be looking at the content from today very closely and it will help us prioritise our roadmap. Depending on the content we may summarise this into themes or activities we are taking forward and those which we may not at this time, and provide feedback in our November event.
27 Mar	**Off topic. The Digital Twin Cyber Physical model (Electricity) shows the Digital Spine; Open Data at centre with Resources (Main Gens, DG, Batteries, other DER), DSO and ESO as spoke corrections. They quote ESO Control systems extensively. Any indications to extent of changes to data management?**	Thank you for your question - we have passed this on to the relevant team and will update this document with a response shortly.
27 Mar	**Will the June and November events still have a virtual attendance option to ensure they remain accessible?**	We will currently not be offering virtual attendance at our June and November events – we have found that in-person events really benefit from everyone being in the same room together. However, all slide content from these webinars & the Q&A will be shared on our website and newsletter after the event. We have also introduced 2 online webinars, which is new for us this year, to improve accessibility to content. If we believe there is further explanation required from in-person event topics we could consider sharing recorded versions of key messages post-event.
28 Nov	**Are we going to need a BSC (or subsidiary document) change to support publishing new data items associated with the grid code change on the Balancing Mechanism Reporting Service (BMRS)?**	Yes – we have contacted our ESO colleagues who interface to the Balancing and Settlement Code (BSC) process and our intention is to present to the BSC after the Grid Code modification is accepted.
15 June	**In claiming carbon reduction benefits, will ESO discriminate on non-price grounds (such as co2 intensity) when making dispatch decisions?**	We aim to dispatch in the most economic way, taking account the operational requirements on the day. At this point in time, carbon intensity does not feature in our dispatch decisions – but you can see the carbon intensity of particular days on our live dashboard.

Received	Question	Answer
15 June	**Does ESO have a published study on the optimum gate closure duration as the generation mix changes (weighing generation variability and system stability)?**	We are working with Department for Energy Security and Net Zero on gate closure timing as part of Review of Energy Market Arrangements. But no conclusions have yet to be reached.
15 June	**When will you increase the procurement cap for DM/DR again, and phase out FFR?**	A key milestone in frequency response reform is the phasing-out of monthly Dynamic FFR (DFFR). This will happen gradually as we develop and establish the new pre-fault dynamic frequency response products Dynamic Regulation (DR) and Dynamic Moderation (DM). To enable a measured transition between the legacy and new suite of response services for frequency response providers and the ESO, we intend to reduce our DFFR requirements by 50MW for each EFA block per month whilst increasing the DR requirement by 30MW. Following the change in March 2023 to procure up to 200MW of DR a series of IT changes were required to facilitate further increases to the DR requirement. There is a final IT change that raising the requirement is dependent on to ensure the visibility of non-BM units in balancing systems. This change is on track to take place in July and therefore enable the cap to be lifted from August 2023 onwards. Further information available here.
9 Feb	**Is there a timeline for the Enduring Auction Capability module?**	We are aiming to have the Enduring Auction Capability platform live later this year. • In September we will migrate Response services • In October/November the Reserve services will be live More information can be found on our website. Future of balancing services | National Grid ESO
9 Feb	**I think Rob mentioned earlier than the expected savings of this programme are expected to be ~£2.5bn - can ESO provide any additional information on these costs.**	Further information on our costs and benefits can be found in Annex 2: Cost Benefit Analysis, which was submitted alongside our RIIO-2 business plan. These are calculated using a methodology agreed with Ofgem. The link to this document is below. Annex 2

Received	Question	Answer
9 Feb	**Sorry if I've missed this but is there a set of slides available from the October event? there's a summary video which is helpful, but couldn't find the slides**	Yes, these are now published our website.
9 Feb	**Given the outcomes of the Zuhlke review, have plans changed? What's been ESO's response (beyond the response to the DDs)?**	We agree that technology and data are fundamental to our role and will have greater importance as the energy system becomes increasingly complex. Given that our technology investments play a central role in enabling substantial consumer benefits, Ofgem applied a higher level of scrutiny to this area of our plans. As set out in our Draft Determinations (DD) response we challenged some of the technology assessment conclusions. We feel that the assessment of our technology investments in some areas is subjective, incorrect, and not aligned to either energy industry best practice or how technology of this type is typically delivered. In our consultation response supporting information annex we highlighted where we feel assessment of our investments is incorrect. Since our DD response we have been working with Ofgem to understand the format and scope of technology investment assessments throughout BP2 and how the new proposed cost monitoring framework will aid understanding and discussion on our Technology investments and the key strategic questions we are taking.