

Enhancing Energy Storage in the Balancing Mechanism

Answers to your questions

Introduction

This document holds all the questions we have received during the following events with supporting answers:

- February 2024 - Enhancing Storage in the Balancing Mechanism – Webinar
- October 2023 - Enhancing Energy Storage in the Balancing Mechanism – In person event

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](#)
- [Systems](#)
- [Markets](#)
- [Other](#)

Dispatch Transparency

Date	Question	Answer
February 2024	"At the OBP engagement day I was told that the volume requirements were c. 700MW for batteries and 1400MW for small BMUs (I'm not sure if the requirements are MWh's but my notes say MWs). What is driving these requirements? For example, I don't see why there should be a difference between batteries and small BMUs and I'd like to see greater volumes made available to batteries. Essentially Jamie's question RE allowing batteries to compete for ALL BM volumes."	This is determined before we run OBP via an optimisation that takes a national view, including transmission constraints, the requirement for each zone is passed to OBP which creates instructions. For zones that are not part of OBP yet, we can still send instructions via existing tools.
February 2024	What is the control policy to dispatch energy storage behind constraints in BM? How does this interact with OBP?	Storage behind a constraint will be dispatched where this is the economic option. OBP is one of the dispatch tools available to the control room and may be used for the dispatch of batteries for any reason.

Date	Question	Answer
February 2024	What tools are ESO using to determine volumes of small BMUs v larger BMUs v IC trades?	We do not allocate volumes on the basis of technology, size etc. We base the decisions on the prices submitted, dynamic parameters, and information which is available at the time to balance cost efficiently.
February 2024	What is the specific updated advice and policy for the scheduling of storage that has been completed in recent weeks (under workstream 2)?	Please slide 18 - this was covered as part of the webinar.
February 2024	How is the probabilistic analysis of BESS availability tested to ensure reliability? Please can we get the key assumptions being used in the "probabilistic analysis of the real-time availability" for batteries to assess SOC?	The probabilistic analysis is based on a data driven approach. Historical data submitted by providers is used to describe the battery behaviour rather than making assumptions in the modelling. This approach will be regularly reviewed to ensure it reflects the available capacity that we can confidently rely on the battery market to provide.
February 2024	I take it the Elephant in the Room is integral optimisation of Charge and Discharge Energy allocations across time within Scheduling and Dispatch?	As part of the GC0166 work we are looking at new parameters to manage limited duration assets
February 2024	Why do some of the battery BOAs come in tiny MWs (extended similar manner) & other times larger BOAs, regardless of price. Is this for balancing and freq events?	BOA are issued by the Control Room in order to meet the balancing and system requirements. These requirements are variable and this will be reflected in the BOA issued.
February 2024	STOR appears to be almost never used these days (maybe non-BM is, not something I check routinely). Is that economic and efficient?	We procure STOR to have the capacity to recover the frequency to operational limits following our largest loss. We would aim to ensure that we were able to transfer this reserve to optional units of the same service standard if we dispatched the service for any other reason. Typically, the prices of STOR units are above the marginal BM price, for both BM and non-BM units, which results in low utilisation.
February 2024	High cost (+/-£9999) BOAs are almost a daily occurrence now. Is the only immediate solution to this the request to change the MEL/MIL logic?	There have been 11 high price instructions since Go Live. We have implemented two fixes in production since Go Live. Since the last fix went in on 6 February we have had observed one further case - the team are developing a fix for this which will be implemented soon.

Date	Question	Answer
February 2024	<p>We need solid guidance on skip rates, please, given we are at >80%. When will we get to "zero" skips - surely this is the target - and what will get us there?</p>	<p>The LCP analysis will enable the metrics we need to measure, monitor and track improvements around skip rates. We expect the analysis to be completed this month, and we aim to share the outcomes from this analysis next month. We will confirm another webinar as soon as we can.</p>
	<p>Will ESO be publishing a tracker of "skip rates" and when should we expect to see this? Thanks</p>	<p>The plan of action we are sharing with you today looks to remove these challenges and enhance utilisation of storage assets. Once the independent analysis is completed, we will be aligning our plan to assess its effectiveness and any further improvements required. Based on our current market design and operational needs, we will always be exposed to some level of skips, depending on system conditions. However, our target will be to eliminate those that will lead to uneconomic dispatch.</p>
	<p>When will we see the final work LCP has been doing on skip rates?</p>	
February 2024	<p>How is what is 'in merit' compared between zones, when these are made up of an aggregation of large number of units? Could some units be 'in merit' on their own?</p>	<p>This is determined before we run OBP via an optimisation that takes a national view, including transmission constraints, the requirement for each zone is passed to OBP which creates instructions. For zones that are not part of OBP yet we can still send instructions via existing tools.</p>
February 2024	<p>Are the OBP stats showing volume and numbers of BOAs dispatched via OBP only? What about in the context of wider BM use?</p>	<p>The graphs show OBP and existing IT systems</p>
October 2023	<p>Should an external organisation verify the changes once they have been implemented to come back to the market with evidence and then identifying further issues</p>	<p>The outcomes from the LCP analysis will provide us with KPI's we can use to monitor and assess the impact/benefits delivered by the changes implemented as per our roadmap. Our Balancing Mechanism and BPS audits also give additional assurance around the effectiveness of our operations, in line with license obligations and security of supply</p>
October 2023	<p>Will unexplained skips be categorised into groups by technologies or by the size of the assets, or both? How granular will the 'deep dives' be</p>	<p>Yes, they will be categorised by technology and size. For the deep dives we will take a sample of days that will be identified from our overall skip rate analysis. For each of those days, we will be going period-by-period to drill into individual accepted actions and trying to identify why those actions were taken, by observing system conditions using all non-BM market data available to us. Based on this, we will be able to identify whether actions were validly taken out of price merit or not.</p>

Date	Question	Answer
October 2023	If Batteries are with the NBE desk: Can ESO commit to dispatching in merit for "slow" imbalance correction and constraint management? Thanks.	Yes, the NBE will be able to use Batteries for slow reserve, constraint management and frequency control. With Bulk dispatch this should be possible similar to how the pumped storage zone is managed. All assets are optimised at a national level as one zone every 5 minutes. Zonal management are purely for re-optimisation between the 5-minute intervals when we might need fast ramping units. So slow imbalance correction will be optimal as it will be optimised as one national zone which includes batteries
October 2023	Why not instruct earlier and therefore "reserve" battery capacity? Instruct before GC or use a TERRE like product (which is already developed)	We don't have the necessary storage data parameters to make this scheduling decision at present. Balancing Reserve will be implemented in Spring 2024 and will provide this service.
October 2023	What is the expected improvement in skip rate once OBP+BDO goes live? It looks like Jean's reasons 1 and 3 are not well solved by the launch in December?	With the delivery of Bulk Dispatch, we have calculated that the dispatch capability will be increased by 550% as long as there is a requirement to dispatch. In addition, with the control room process review and training we expect a material impact on skip rates
October 2023	Will part of the LCP analysis be to consider changing manual dispatch skips into 'avoidable' skips? Wouldn't this help measure success of Bulk Dispatch?	As discussed in the presentation and at the breakout session – terminology is really important, hence the need for collaboration with industry during this analysis and agreement on what terminology is used for an understood explanation. The LCP analysis will provide us with KPIs to help monitor, track and assess the improvements we will be delivering
October 2023	Does the auto instruction repeater improve skip rates or make them worse? Repeating a unit might not be as efficient as moving to a different one.	The automatic repeater instruction is mainly used for managing the system during times of high wind and constraints. Wind is bid off in cost order with prices monitored by the Zonal Balancing Engineers. These actions will be marked as system
October 2023	Will the LCP Delta report be made publicly available once complete	Yes – unless commercially confidential. We have committed to sharing the analysis, proposed methodology and a plan going forward based on the outcomes.

Date	Question	Answer
October 2023	What is ESO’s own estimate for BESS and wider zero-carbon flex skip rates? If LCP’s work highlights the need to change the transparency data, will that happen?	<p>We do not currently calculate “skip rates”.</p> <p>We publish the dispatch transparency dataset to provide insight into our dispatch decision making. Our Balancing Mechanism and BPS audits also give additional assurance around the effectiveness of our operations, in line with licence obligations and security of supply.</p> <p>The outcomes from the LCP analysis will provide us with an independent view of the way we categorise decisions and suggestions for KPI’s we can use to monitor and assess the impact/benefits delivered by the changes implemented as per our roadmap.</p>
October 2023	Where is the publicly available data showing that, for instance, a BMU has been dispatched to be positioned for Freq Response?	<p>This information is not published on a per BMU basis, only overall response volumes are shared in our monthly incentive and MBSS reporting.</p> <p>However, for dispatch transparency we do show where frequency response was the reason for a unit being taken. The Response category in the All-BOA dataset is defined in the methodology document as: "Action where the BMU is providing or being positioned to provide response in the Settlement Period or across settlement periods if positioning/returns abridge the adjacent settlement period. "</p>
October 2023	We’ve been told ‘do phone ENCC if you are skipped’, and ‘don’t phone ENCC if you are skipped’. Which is it, and can we have consistent treatment for all please?	<p>If you are concerned that a unit has been skipped, please provide the details to box.NC.Customer@nationalgrideso.com. The Operational Insight team will be able to provide an explanation for the dispatch decisions made, seeking advice from the control room engineers as necessary.</p> <p>This will reduce the risk of distracting control room engineers while they are actually dispatching units and ensure your query is logged.</p>
October 2023	<p>The skip dataset, and specific incident analyses of it, have improved our own operations. Thank you for putting this into the public domain and supporting it.</p> <p>Thank you for informative presentations. Are there opportunities to publish decisions e.g. 'skip' reasons in real-time.</p>	<p>Thank you!</p> <p>Not at this point in time, however future iterations in dispatch tools may enable a control engineer to assign a reason to a decision in which case this potentially could be included in the publication of BOA details.</p>

Systems/Operational

Date	Question	Answer
February 2024	NGESO always leaves plant in the BM as reserve. This must all be fast acting. Do you check if this is done "fairly" as it seems you take a service for free?	Reserve is scheduled within the System Operating Plans to help manage uncertainty, e.g., wind and demand forecasts can out-turn higher or lower than predicted. As real-time approaches reserve is eroded by the energy manager to help reduce costs for consumers. The introduction of the balancing reserve product will provide an even playing field for providers at the day-ahead stage to be contracted for this flexible reserve and receive availability payments based on a pay as clear auction.
February 2024	For the 30min BOAi rule - can you please explain what this means for a 1MW 0.5hr duration BESS, unless completely full or empty, it can't provide a 30min BOAi	We are working with the relevant teams to provide more information to you regarding your question; we will update this document once this information is available.
February 2024	Currently BOAs are very short in duration, often much less than 15mins. Having the 15mins rule allows short duration BOAs to have a more volume. Moving to a 30min rule would result in short duration BOAs be less volume due to lower MEL/MIL levels, unless duration increases significantly.	Currently BOAs are very short in duration, often much less than 15mins. Having the 15mins rule allows short duration BOAs to have a more volume. Moving to a 30min rule would result in short duration BOAs be less volume due to lower MEL/MIL levels, unless duration increases significantly.
February 2024	We don't know the impact of changing to a 30-minute rule on our systems. Would the change on the 1st March exclude us from being considered from the BM?	At this stage, we are seeking feedback from providers about this change, including any potential impact to operations. Battery providers will need to ensure that they can sustain the declared MEL/MIL for the full length of a BOA, including a 30min BOA.
February 2024	Can a BMU be in both Virgil & BDO systems at the same time? Sometimes we see our units skipped when other BESS are being utilised en masse around us (presumably by BDO) - they are in different parts of the country so unlikely be down to an active constraint removing them from the BDO solver	A BMU can be in both Vergil and BDO at the same time. If BDO did not pick up a unit we are happy to investigate this.
February 2024	The proposed revision to 15-minute rule to 30 minutes is welcome. Is that change being expedited explicitly to support Balancing Reserve, or another reason?	We have received feedback from industry expressing a desire to move to 30-mins. We've had to be cautious about the way we manage this due to the lack of visibility of energy volumes from providers. Changing to 30 minutes will align with Balancing Reserve. Our internal analysis suggests that volumes may be available, however at this stage we are seeking feedback on this proposal.

Date	Question	Answer
February 2024	How will you ensure that 30 minutes is available at MEL/MIL? What are the consequences for over-optimistic declaration of MEL/MIL on a 30-min timescale?	Battery providers will need to ensure that they can sustain the declared MEL/MIL for the full length of a BOA, including a 30min BOA.
February 2024	What steps is the ESO taking to level the playing field & migrate ALL market participants (BM & non-BM) to OBP & identical market rules to minimise cost to end consumers?	It is part of our roadmap - we are looking to have NBM within OBP by end of 2025. Complete harmonisation will need some consideration of market rules.
February 2024	Can you share any KPIs you have developed for the control room on using OBP? What are the key metrics you are tracking to measure the success of OBP? Instruction rates have increased, but average instruction volume has decreased.	We do not have a KPI for usage – control engineers use all the tools they have to dispatch in an economic way.
February 2024	How does control room make decisions on using OBP for balancing actions? Are they provided with a volume/price from OBP zones ahead of running the optimizer?	OBP is provided with a target MW per zone that comes from an earlier optimisation. It then runs OBP to choose the best BMUs within a given zone and automatically sets up and send instructions after review by the engineer. In the future all zones will be included in OBP, but running such a large optimisation problem in the required time is a challenge.
February 2024	What will it take for ESO to assign more MWs to the Battery zone total in the BM? More instructions makes no difference if BESS competes for such limited volume What is the long-term plan to allow storage to compete for all BM volumes on a fair and level playing field?	As discussed in the presentation we are scheduling storage assets in our System Operating Plans (SOPs). We currently do not have storage parameters within our systems to determine the availability of reserve in a battery. The volume of batteries included in scheduling timescales is established from a probabilistic analysis of the real-time availability, as this changes over time. This will continue to be reviewed as we gain further experience and are working with industry to implement storage parameters via the Grid Code consultation process.
February 2024	Can you provide some clarity of the technologies in the small BMU zone please and what are the largest BMUs that can enter into this zone?	Small BMU zone is largely made up of aggregated units and some small gas units. The units typically have a capacity of 50MW and under.

Date	Question	Answer
October 2023	Regarding the issue with bulk dispatch in the BM, it was previously mentioned that NG were working towards a multi dispatch tool. Was this implemented?	OBP is on track to deliver Bulk Dispatch in December.
October 2023	We don't talk about policies, just system changes. How can we be confident the CRAIG documents demonstrate the correct behaviour for storage if now shown?	In addition to system changes we are reviewing our process and new procedures for OBP Go Live. CRAIG is used as a short-term operational advice until procedures are updated.
October 2023	How far into the future would you want to ideally be able to calculate storage capability?	As per our existing process, 32 hours ahead at the day-ahead stage will enable us to feed battery capacity into our overall margin and transmission analysis processes
October 2023	Why don't you use Max deliver volume and maximum delivery time?	These parameters, which already exist, are unidirectional. For storage assets we need to take into account their bidirectionality which is why we need an Export and Import version of these.
October 2023	Why use state of charge? There are many variables that affect what the MW/MWh will be from the SoC. NG are not best placed to do this. Use Max delivery volume.	Options on the best dynamic parameters to use were presented at the event and will continue as part of our plan to enhance the use of storage assets. These will be taken in consideration and finalised as part of the required grid code change.
October 2023	Can you reassure us the battery zone won't become a sidewater and limit the ability of BESS to compete against fossil fuel and larger generators	Yes, the NBE will be able to use Batteries for slow reserve, constraint management and frequency control. With Bulk dispatch this should be possible similar to how the pumped storage zone is managed. All assets are optimised at a national level as one zone every 5 minutes. Zonal management are purely for re-optimisation between the 5-minute intervals when we might need fast ramping units. So slow imbalance correction will be optimal as it will be optimised as one national zone which includes batteries.
October 2023	How are the parameters MDV and MDP currently used in the control room? How should storage set these values given their flexibility	Unfortunately, MDV and MDP are unidirectional whereas storage assets need an export and import parameter
October 2023	To be clear are you asking battery optimisers to reduce the amount of MEL/MIL re-declarations? If so by how much and to what limits?	We are asking people to submit changes to MEL/MIL and not just re-submit all information. We will be providing guidance on this shortly
October 2023	Can the system function without traditional inertia from CCGTs?	That depends on whether the 140GVAs can be met with alternative inertia – hence the pathfinder stability projects and other areas

Date	Question	Answer
October 2023	When will the ESO systems be able to handle decimal places? (I.e. more granular than 1MW)	<p>OBP does handle decimal places and as part of its proof of concept we constructed a “Service X” which included <1MW units.</p> <p>However, until 2027, OBP will interface with our legacy systems which still have integer limitations so as an end-to-end solution we would need to cater for this.</p>
October 2023	What is exactly the 15-minute rule for Dispatch and how would the SoC signal via SCADA remove it?	<p>In the absence of parameters which explicitly tell the ESO how much capacity a storage asset has left we use the parameters MIL and MEL and the fact that we will issue 15-minute instructions to deduce the capacity. This means the ESO is limited to instructions of a certain length. SoC would tell us explicitly how much capacity is left and allow the ESO to vary our instruction length</p>
October 2023	The problem with using state-of-charge is not that it's a single value. It's that you need to know several other parameters (capacity, efficiency, min/max SOC)	<p>Agree. The ESO will shortly send out worked examples of our scheduling need with the data we think we need. Industry can then reply with improvements to our proposal, and we aim to implement the best option.</p>
October 2023	How will all the advances to BM work with the Elexon systems that are still managing all the payments relating to the BM?	<p>All of our Balancing Mechanism (BM) systems, existing and in development, have to meet the requirements of the Grid Code and the Balancing and Settlements Code (BSC). The BSC in particular governs the way in which data is managed and shared with Elexon to inform the Settlements process. The BM systems and data is audited each year by external providers to ensure the ESO systems continue to meet these requirements.</p>
October 2023	Will NGESO enable the optimization of storage assets providing frequency services alongside BM activations?	<p>Over time we are developing new optimisers (with universities such as Strathclyde, Imperial and Oxford) to co-optimize many different services</p>
October 2023	We quickly need an agreed process to get to a decision on storage parameters. What do ESO propose.	<p>We are looking at progressing this via Grid Code changes</p>
October 2023	What is the minimum BOA duration that NG would instruct to a storage asset?	<p>One minute.</p>

Markets

Date	Question	Answer
October 2023	How concerned are you by the large number of storage units that are heading down the non-BMU route and NIV chasing? There could soon be ~1GW in this class.	Market participants will obviously make their own decisions. We're trying to make our markets accessible for all parties and our preference is for transparency and controllability for our control room. We would hope that the progress we are making will allow parties to operate with confidence in all our markets.
October 2023	How will you prevent market manipulation with the new parameters given that they can be changed post gate? Clear guidelines and monitoring will be required.	This will be a consideration of the design and code change process. Parties have general obligations with respect to market manipulation. Any suspicions of manipulation should be reported to MarketReporting@nationalgrideso.com
October 2023	Will there ever be a consideration to pay Batteries a fee to guarantee availability in the BM (equivalent to paying to warm a gas station to use in the future)?	<p>Yes, this is an area we're actively looking into through a project looking at what market design is needed to drive more effective scheduling.</p> <p>We first need to understand to what extent the new day-ahead Balancing Reserve market would address the current distortion of unit start-up costs being included in real-time BOA prices.</p> <p>Our projects on this topic are in the early stages but we will be reaching out to engage in Nov/Dec.</p>
October 2023	How will increases in Dynamic service caps address skips for assets other than batteries, given the current tech profile of those services?	Dynamic Response (DM/DR/DC) volume increase does not directly impact Skip Rates in terms of BOAs being in Merit or not. It is another market for assets to sell capability by participating in auctions. For more information see: New Dynamic Services (DC/DM/DR) ESO (nationalgrideso.com)
October 2023	What is the most suited market or service for battery technology that can fully charge and discharge very quickly in 90 seconds approximately?	We don't comment/advise on most suited markets – this is down to individual providers business plans.
October 2023	Any word on when slow reserve will be launched? Did I miss something from this timeline presentation or has Slow Reserve disappeared for the foreseeable future?	Slow Reserve has been removed from the roadmap as plans for delivery of the new Slow Reserve service are still being considered. Quick Reserve and Balancing reserve have been prioritised
October 2023	Will some of the operational problems of ESO IT and manual work practices be used as excuses to deny BESS access to Slow and Quick Reserve launches in 2024?	We have said that we will deliver quick reserve for BM units in OBP next year and in non-BM units once ASDP is migrated to OBP in 2025. Our processes, procedures and training are being updated for OBP Go Live and will be reviewed as we make incremental releases throughout 2024

Date	Question	Answer
October 2023	We were told you'd set expectations for the scale of impact from each improvement. I don't feel we have clarity on the impact of changes, when will we?	<p>You've heard today about the market and tools that we are planning to adapt/amend.</p> <p>With LCP we will be working to establish how to demonstrate the impact of these changes – as new KPIs provided to us to start measuring/tracking/monitoring the benefits and how these are being realised.</p> <p>Committing in December for analysis to share with yourselves, and a proposed methodology and a plan of action for how we think we can implement those metrics and KPIs.</p>
October 2023	Does NGESO ever compare its own markets with European ones such as FCR and aFRR, which are much simpler for batteries to participate in + for TSOs to operate?	<p>We do consider what other TSOs have in terms of either system or market operation.</p>
October 2023	Will OBP ensure that batteries don't need to be considered their own Zone, and enable their use by the Zonal Balancing Engineers?	<p>As per the Dispatch in Practice presentation, OBP will still manage assets in zones. The first two zones in December are Batteries and Small-BMUs.</p> <p>Batteries in their own zone so that we can use for fast frequency connection – when used for slow closure within BM gate it is easy for NBE to do this.</p> <p>With or without OBP – dispatch advice is per zone. No concept that there's a negative aspect to batteries being in their own zone.</p> <p>All assets are optimised every 5 mins as one national zone. The sub zones are only used when we need to optimise between the 5 min optimiser runs. Normally the requirement is then also for fast moving assets like hydro and Batteries. Hence these two zones can be directly instructed by the NBE who controls the Frequency.</p>
October 2023	What technical parameters are needed to qualify as a 'fast asset' e.g. Ramp rate, delivery duration, time to response etc?	<p>It depends on the requirement on the system at the time. We rank the options the ESO have in terms of time taken from sending instruction to delivery. So NTO/NTB of zero mins. NDZ of 0mins. Ramp Rate of 999MW/Min is the fastest assets we have.</p>
October 2023	Self-dispatch / NIV chasing - how do you know the volumes are small? Have you looked at the 'hot' periods when the signals for self-dispatch are strong?	<p>ESO are not in a position to know the value of any NIV chasing which occurs, as we are only able to see the differences between what units indicate they will do in their physical data submissions and their actual metered volumes at BMU level. There are potentially a number of reasons these differences occur, and this is not the same as the true NIV level.</p>

Other

Date	Question	Answer
February 2024	Could you try to get meeting dates in the diary with more notice? One week is a bit tight.	Thank you for your feedback we will work to ensure greater notice of events moving forward.
February 2024	What's your view on reclassifying larger power station definition to >10MW (GC0117), meaning they would need to sign up to the BM?	<p>In regards to GC0117, the ESO support the Original, especially in respect of Grid Code Objectives (a), (b) and (c) which as demonstrated by the Cost Benefit Analysis has shown the net benefit to the development, maintenance and operation of an efficient, coordinated and economical system against the background of increasing volumes of Embedded Generation which in turn will also promote greater competition. We also believe this modification will enhance the security and efficiency of the system through bringing a greater proportion of Generation under the framework of the Grid Code. Whilst we acknowledge there will be an increased cost to some individual parties, including sub 100MW Embedded Generators, Transmission Owners, DNO's and the ESO, the CBA has demonstrated a significant net overall benefit to the System as a whole.</p> <p>We do not support WAGCM1 as we do not believe this better facilitates the Grid Code objectives, especially in respect of (a), (b) and (c), as it reduces competition, increases operating costs, and reduces the levels of resilience. The additional costs arising from WAGM1 have been demonstrated in the Cost Benefit Analysis.</p> <p>We do not support WAGCM2 as this was the LEEMPS Plus option which the ESO initially proposed as an Alternative and then subsequently withdrew it on the basis that it was becoming increasingly similar to the Original Proposal.</p>
October 2023	Have LCP engaged with DSR providers? Over-focus on batteries/storage risks exclusion when DSR has also flagged these issues for a number of years.	Yes, DSR providers have been engaged in the stakeholder engagement and their views will be reflected in the report.
October 2023	What are the timeframes for implementation for the new grid code change to include new dynamic parameters? (Presented to grid code forum on 2 August)	<p>We hope to have our software changes complete by Dec 24 – in parallel we will progress Grid Code changes.</p> <p>Hopefully, with Industry support we would complete in 3 to 4 months with then time for Ofgem's decision.</p>

Date	Question	Answer
October 2023	The outputs of the LCP analysis should then include setting incentive targets for the ESO incentive scheme that Ofgem should monitor as the ESO regulator	Thanks for the suggestion – we will be sharing all these questions and suggestions with Ofgem. We currently report the dispatch transparency dataset on a monthly basis with our incentive metrics and would anticipate that if another metric is developed, we could include this in our reporting.
October 2023	How does one match BSAD actions from DETSYSPRICES & PHYBMDATA (old Elexon BMRS API end points) to the BMUs being dispatched for these actions?	Although the ESO provides data to Elexon which they publish through BMRS we are not familiar with the contents of the API they provide, or how you may choose to match, compare or combine the API outputs with other datasets from the ESO, Elexon or other sources. Elexon publish their own BMRS API and Data Push Guide - Elexon Digital BSC. You may find this document useful as it gives details of the data fields provided in each dataset including which fields contain the BMU identities.
October 2023	Has ESO engaged with EDL/EDT software providers to make sure that they have enough information to deliver EDL changes in time for go live?	For our December release there are no functional changes to EDL/EDT. At our face-to-face industry events we have presented volume increases. We also made a presentation to the Grid Code Development Forum on this issue and encouraged Market Participants to contact their software houses. In addition, we have directly contacted several software suppliers directly. We are also setting up an IT Forum to discuss future changes that will involve functional changes
October 2023	Will part of the LCP analysis be to consider changing manual dispatch skips into 'avoidable' skips? Wouldn't this help measure success of Bulk Dispatch?	We won't automatically put all manual skips into avoidable skips – however, all kinds of skips will be included in the data being assessed and won't be overlooked
October 2023	Ref LCP comments. Why exclude batteries from 3h+ events? Battery MW can be de-rated to run for >3h and is attractive to BESS operators. Let's be inclusive?	The methodology excludes >90mins. In the BM we can't access those assets – therefore greater lead time is excluded. LCP are looking at last 12months for their analysis, so they see it as more economic or cost effective not to part load for a long period of time – but to max output for a period of time.
October 2023	My conclusion of the day is that the launch of OBP/BDO in December and then fast dispatch will have the greatest impact on BESS dispatch – is this correct?	We do expect to see a significant increase in BESS Dispatch with the introduction of these new functionalities. However, this is still caveated by system conditions at any given time to what the best solution may be.

Date	Question	Answer
October 2023	Can you set out the expected impact on each roadmap deliverable on BOA call off for BESS assets in terms of both number of instructions and duration	It's not currently part of our plan to do but it may be something we consider in the future.
