Public

October Reserve Webinar

21 October 2024

NESO
National Energy System Operator

Agenda

1. Introduction
2. BR update
3. QR and Slow update
4. Quick Reserve Phase 2
    1. Design Summary
    2. NBM Requirements
    3. Revenue Stacking
    4. Crossovers
    5. Cease Time
5. Recap on transition plan

Balancing Reserve update

1. Continuing settlements tool development for IVC implementation (01 December go live is still on track).
2. Dispatch flexibility rules review underway – in the modelling phase.
3. Continuing to plan for a BR consultation in Spring 2025. Activities include auction timing review, alignment with QR (e.g. contract transfer process) and general contract wording improvements.
4. We have been undertaking a review of the benefits of BR and the impacts on Balancing Costs.
5. We are reviewing the BR procurement strategy.

QR Phase 1
Update

- **30 October 2024** final decision is expected from Ofgem

- **1 November 2024** new service terms and procurement rules published
  - Providers will then be able to complete pre-qualification for Quick Reserve in SMP

- **19 November 2024** EAC auction platform goes live (opens 14 days ahead of first auction)
  - Sandbox version of auction platform available now

- **3 December 2024 (14:00)** first auction (co-optimised with response services)

- **3 December 2024 (23:00)** first operational day (QR Contract delivery)

As we continue towards our mock auctions between **28 October and 8 November** for phase 1 of Quick Reserve, join us for our weekly drop-in sessions each Thursday, these sessions are for providers to ask the team any questions regarding Quick Reserve and during the session on **24 October** we will cover the end-to-end process for participation in the service.

QR Phase 2
Update

- **11 October 2024** proposed Service and Procurement Design published to industry
- **1 November 2024** industry feedback closes
- **November 2024** we will be publishing our OBP API non-BM interface specification
- **December 2024** Article 18 consultation expected to be launched
- **June 2025** the enduring Quick Reserve service expected to go live
- Drop-in sessions, sandbox and mock auctions will follow similar approach as phase 1.

Slow Reserve
Update

- **November 2024** proposed Service and Procurement Design published to industry
- **November 2024 we will be publishing our OBP API non-BM interface specification**
- **January 2025** Article 18 consultation expected to be launched
- **September 2025** service expected to go live

QR - Phase 2

QR Phase 2

Design summary

Technical Design Element	Proposal
Provider eligibility	BM with control/system telephone during contracted windows. **NBM with operational telephone during contracted windows.**
Time to full delivery	**1 minutes from instruction**
Minimum Activation Period	**Not greater than 5 minutes**
Maximum Recovery Period	**Not greater than 3 minutes**
Energy Requirement	The unit must be able to deliver the full contracted capacity per Service Window
Operational Metering	**1 Hz for both BM and NBM units**
Dispatch mechanism	BOA for BM units OBP NBM dispatch instruction for NBM units
Notice to Start Ramping	**0 minutes**
Ramp rates	No maximum ramp up or ramp down rates. Minimum ramp-up and ramp-down rate to be in line with Time to Full Delivery
Performance Metering	**1 Hz for both BM and NBM units**
Performance Monitoring	Time to Full Delivery, Availability and Utilisation - Penalties for over (>120%) and under (95%) deliveries
Baselining	**All providers are expected to provide nomination baselines, equivalent to the Physical Notification in the BM, 24/7, with Final Physical Notifications 60-mins ahead of contracted Settlement Period. Zero and non-zero baselines allowed.**
Aggregation	Yes, per GSP group
Operational data requirements	**BM units as per current BM operations** **NBM units to submit relevant operational data**
Ramp rates for baselines	Aligned with Dynamic Response – No restriction
Passing through zero	Allowed

Procurement Design Element	Proposal
Service Window	**30-minute blocks**
Maximum Bid Size	300 MW
Frequency of Procurement	Daily – Firm procurement Within day – optional procurement
Locationality	National
Auction Platform	EAC
Auction Timing	**Results by D-1 14:30**
Stacking	Same MW cannot be sold twice
Bid Sizing	1MW≥, integer bids
Linking of bids	By Service Window and Product (Positive and Negative only)
Bid Curtailment Rules	User defined
Payment Structure	Firm: Availability + Utilisation Optional: Utilisation only
Payment Mechanism	Availability: Pay-as-Clear Utilisation: Pay-as-Bid

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NBM Requirements

PNs & Operational Metering 24/7

In line with frequency response services and the Balancing Mechanism, all providers (BM and NBM) will be required to submit PNs and operational metering [at a frequency of once per second (1 Hz) with a latency of no greater than five (5) seconds], continuously (24 hours a day, 7 days a week) whilst prequalified for the service. For the avoidance of doubt, this includes where the unit is declared unavailable.

The acceptable submission rate is 80% of the time, measured on a rolling 28-day assessment period, and calculated daily. If a provider has not submitted data in relation to a Reserve Unit for at least 80% of the time across 28 days prior to a particular service day, then sell orders submitted for that Reserve Unit on that service day shall not be valid.

We will calculate the submission rate for each set of data separately. That is, the provider must submit both operational metering [and operational baselines] for the Reserve Unit at least 80% of the time; for example, a submission of less than 80% for operational metering cannot be offset by a higher than 80% submission of operational baselines.

NBM Requirements

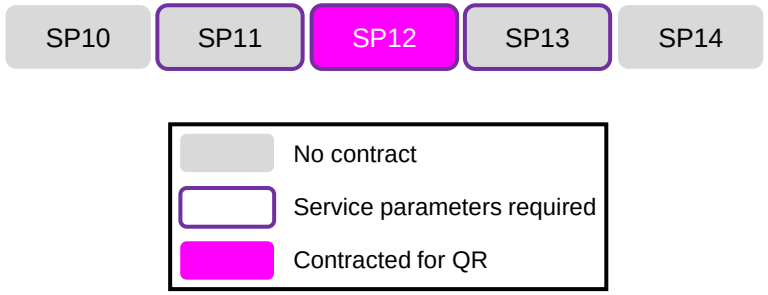
Operational Data

In addition to the submission of operational metering and PNs, NBM units must also submit relevant dynamic parameters, as defined below, during all contracted Service Windows, as well as during any uncontracted service windows immediately before and after any contracted period. Please see example as below.

Proposed operational data requirements

- Time to Full Delivery
- NTS (NTO/NTB equivalent)
- Ramp up rate
- Ramp down rate
- Minimum Activation Period (MNZT)
- Recovery Period (MZT)
- Availability (MW and Utilisation Price)

Example



In response to provider feedback and in the interests of transparency, we propose to publish the highlighted NBM technical data. However, we are keen to seek further views on this proposal.

Revenue Stacking

Stacking

Definition: the ability to use the same unit to provide different products simultaneously (i.e., in the same window), effectively allowing for multiple revenues from different markets with a single unit.

Co-delivery

Definition: Being paid multiple revenues from the same asset, using the same capacity, in the same time period and in the same direction.

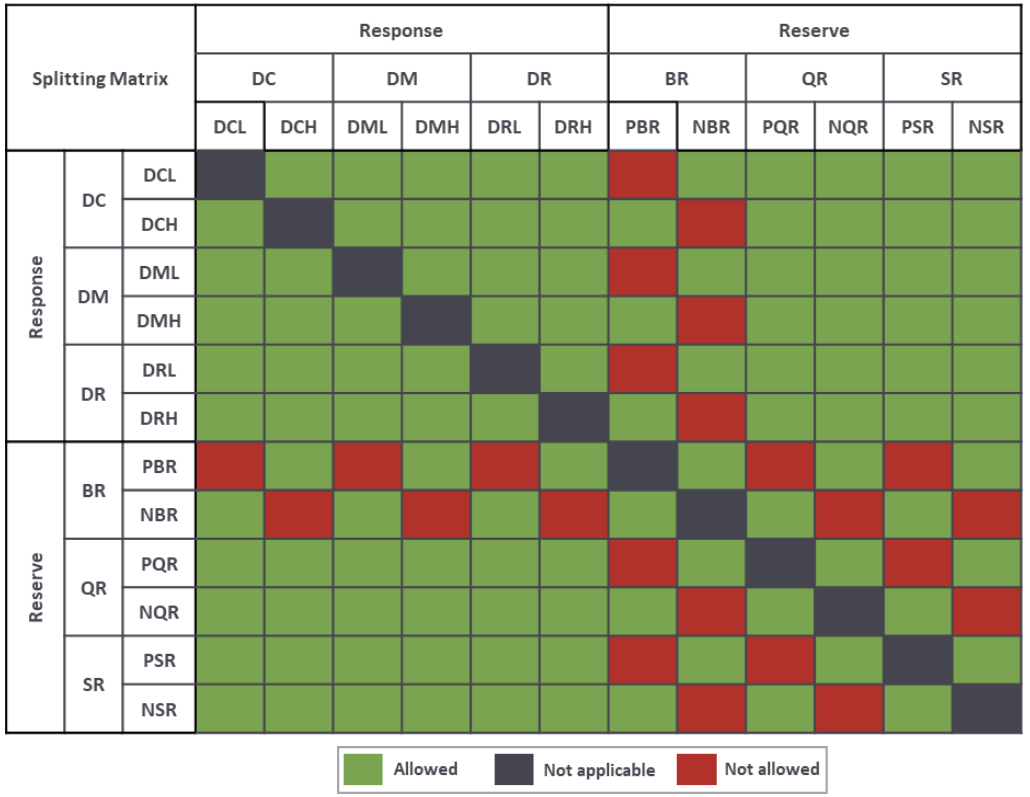
QR providers can Co-deliver their capacity with the Capacity Market (CM). In some cases, it may also be appropriate for providers to Co-deliver QR capacity with the BM.

Splitting

Definition: Being paid multiple revenues from the same asset, but with different capacity, in the same time period.

For a given QR Window, splitting is allowed between Positive and Negative QR and the Dynamic Response Services, as long as different capacity from the asset is used for each service. Splitting is also allowed between QR and opposite direction Reserve services (i.e., PQR and NBR), as outlined in the table below, as well as Voltage and Stability services.

Note: Splitting is not allowed between the same polarity Reserve products, i.e., PQR & PBR. Availability payments will be withheld for any units holding >1 Reserve service in the same direction for a given Settlement Period.

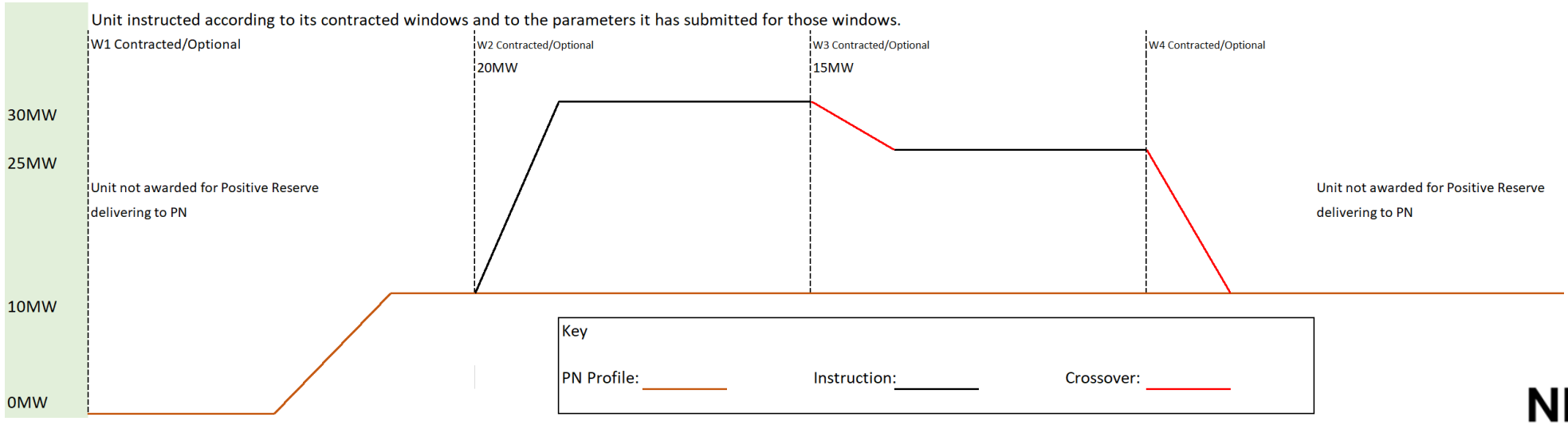


Crossovers

There is a requirement for all contracted units to be able to continue delivering a dispatch instruction for the next settlement period following the end of a contracted service window. The maximum this could be is in line with the unit's defined Minimum Activation Period (MNZT).

Providers are expected to submit availability for their crossover delivery, which should be in line with the above requirements.

The below graphic shows how a unit should ramp if contracted or offering optional volume in adjacent windows but with differing MW volumes. As can be seen, any ramping should start at the beginning of the next Settlement Period where there is a change of offered MWs.

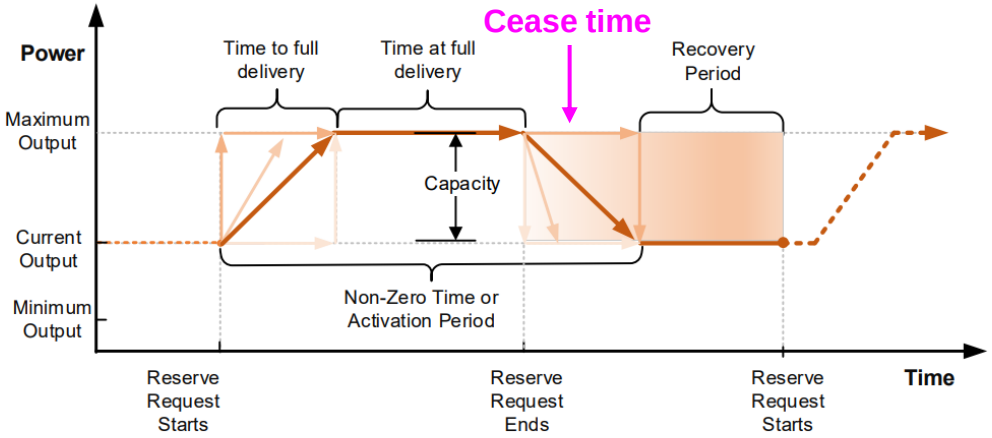


Cease Time

Proposed relaxation

Definition: the converse of Time to Full Delivery; That is, the time a unit takes for a unit to ramp down from a Reserve instruction ending to its FPN.

Current requirement: The current non-zero delivery envelope is a symmetric trapezium, meaning the ramp-up and ramp-down times are equal.



Proposal: Whilst NESO had an expectation of a symmetrical ramp, this has not been explicitly set out in the current QR Phase 1 terms, and as long as a unit is able to meet the 1-minute TTFD, and the up to 5-minute minimum activation time (which address the key system needs), then the ramp down does not have to be 1 minute. This is to assist the participation of as many different technology types as possible.

Industry feedback on this specific topic is welcomed as we are still finalising this requirement.

Quick Reserve transition plan

- Optional Fast Reserve (OFR) market will remain open until December 2025
- From December 2024 Quick Reserve and Optional Fast Reserve (OFR) will be operational together
- We expect to meet our firm contracted fast-acting reserve (circa 500MW positive and 300MW negative) from the Quick Reserve service auction
- We will include the prices of OFR units with similar parameters to Quick Reserve to guide the price of alternative action to help derive the buy-order for Quick Reserve.
- Within day OFR units can bid in their capacity competitively against the QR Contracted units and would be utilised in merit order for reserve based on the combination of arming and utilisation fee - As long as OFR units are priced competitively and meet the system need then there is no reason why they would not be instructed.

NBM Requirement API updates

- Informal industry consultation held closed 10th September
  - SOAPv4 as proposed API
  - Operational Metering to iHost
  - Settlement metering direct to Settlement System via API (out of OBP scope)
  - Treatment of crossovers (moving from one window to next)
  - Ramp Rates as potential dynamic parameter

- Limited response and feedback obtained
- Additional feedback to be requested Dynamic Ramp rates **Q: If implemented will providers use this?**
- Currently finalising API specification and internal governance and looking to share specification in next 2 weeks
- As part of service registration, MPs will be signed-up for testing that will occur in April 2025

Q&A

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Question from last time

Because geometry isn't encoded in the Balancing Mechanism and is thus invisible to the market, how can providers verify that all participants are conforming to the same dynamic requirements?

- Dispatch system arrangements such as the convention to dispatch large thermal units for a minimum of 5-minute flat periods or small BMUs via OBP using a “minimum flat-top time” logic (15-minute minimum reversal time) are not expressed by BM participants via specific parameters. This means that it is possible to construct bid/offer instructions that are of shorter duration without violating physical or dynamic parameters.
- Any unit that is participating in Balancing Reserve has signed up to the existing dispatch flexibility rules and therefore are implicitly accepting the possibility and capability to deliver on shorter than 5/15 minute flat instructions.
- Since BR went live in March ‘24, our control engineers have sent short duration dispatch instructions to BR contracted units when needed to correct a short duration energy imbalance.
- We monitor the precision delivery of BOAs on an ad-hoc basis using operational metering data if there are concerns raised from the operational teams that units are not following the shape of the instruction and hindering efficient balancing.
- Units incorrectly delivering BOAs also face settlement period level consequences in terms of imbalance exposure and BOA non-delivery charges which act as deterrents to over or under delivery.
- Alongside this we are reviewing the dispatch flexibility rules and working with colleagues in our OBP development teams to understand how we can access and reward as much flexibility as possible from the conventional and small BMU zones without expecting dispatch that is beyond their technical capabilities.

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Question

Please could we have some clarity on the expected IVC outcome if a BR contracted unit fails to deliver on the BR contract due to receiving BOAs in earlier uncontracted periods e.g. preventing charging ready for BR?

- We believe that providers who need to prepare their asset for BR (e.g. via charging their unit) should use their Bid/Offer prices in the BM to avoid being unhelpfully dispatched whilst they are making preparations for a contracted period.
- +£9999/MWh prices and -£9999/MWh prices take a unit out of contention for dispatch in the BM and are a tool used by many operators for periods where they don't want their output to be changed by our dispatch engineers.
- Providers could also attempt to price in the cost of non-compliance to their prices, we believe this would be IOLC/TCLC compliant if done proportionately however it may be something that looks odd. Ultimately this is the providers' risk to manage but our view is that a +/-£9999/MWh may be easier to interpret.
- We think it is reasonable that BR contracted units should plan their energy management in order to deliver on their reserve contract, if not they will be at risk of incurring the IVC penalty if they don't make the reserve capacity available in real time due to offers in earlier uncontracted periods.

Thanks for joining us