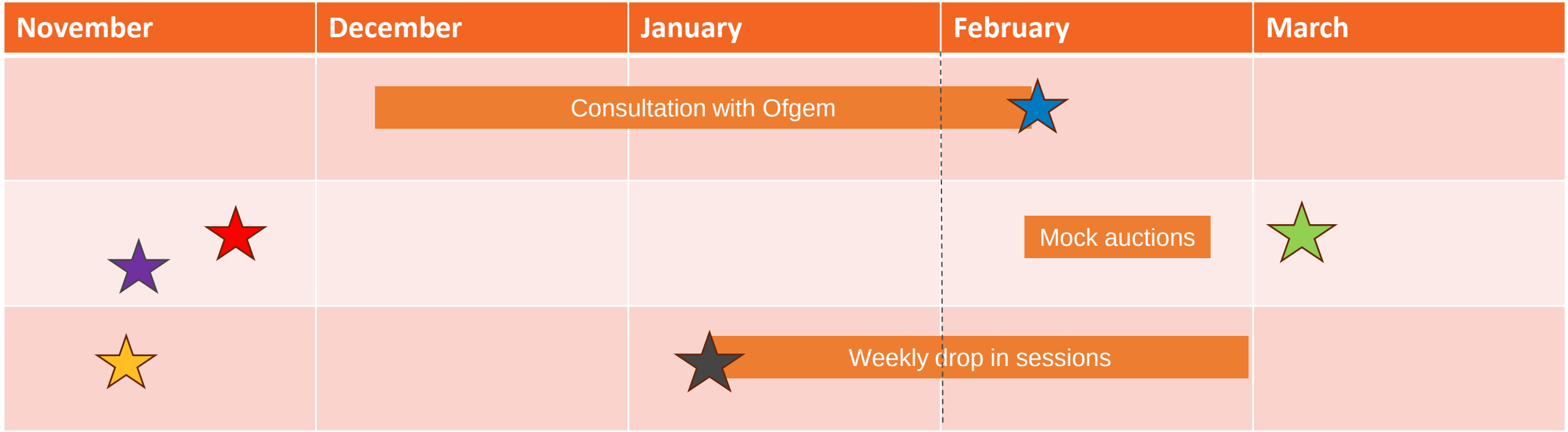
Balancing Reserve Industry Drop-in

1 February 2024

ESO

Timelines

Timelines



Ofgem decision expected

Sandbox demonstration

SMP onboarding available

Mock auction expression of interest open

First auction

Webinars

Future of Balancing Services (FoBS) sign up link

Key Dates

Ofgem Decision – 8 February 2024

Mock Auctions – 14 Feb to 23 Feb 2024

EAC platform open for bids – 27 Feb 2024

First Auction – 12 March 2024

Onboarding

Onboarding

- Sandbox environment with Balancing Reserve enabled has been ready from Friday 5th January.
- Those providers who took part in the sandbox during the EAC launch will be able to use the same login and API credentials
- Any new providers registering for the sandbox will need to ensure the email used for registration matches their CIAM account
- If you wish to take part in either the sandbox or mock auction, please contact minesh.solanki@nationalgrideso.com

- Daily Response and Balancing Reserve auctions have been set up in the Sandbox environment
  - These will consist of a standard buy order and may not be reflective of production
  - Results of each auction will not be published on data portal, but individual results can be obtained from the sandbox UI

- SMP onboarding is **NOT** required if any provider wishes to partake in the sandbox or mock auction environments

Mock Auction Timeline

- URL for mock auctions will be https://mock-auction.eac.ngeso.production.n-side.com (wont be active until 5th Feb)
- User data and units (not orders) associated with Balancing Reserve from the sandbox will be moved to the mock auction environment.

- Mock auction order submissions will be allowed from **07th February 2024**.
- This is when providers are able to create and submit orders ahead of the first auction

- First mock auction will take place on **14th February at 08:15am**
- Auctions are scheduled daily with the final mock auction on 23rd February.
- Results of each mock auction will be available on the UI from 08:30
- Full mock auction market results will be posted on the data portal at 08:45 using the following link (https://www.nationalgrideso.com/data-portal/eac-br-mock-auction-results) (wont be active until 8th Feb)

* Note, the results for 17th and 18th Feb will be posted on data portal on Monday 19th February.

Stacking & Performance Monitoring

Visual Overview of Future Products

See EAC market design explainer p16 for the EAC splitting matrix https://www.nationalgrideso.com/document/277671/download

- Following consultation feedback, we are working to enable stacking of BR and response services in the **opposite** direction. We are looking at making changes to the BR Service Terms to enable this on or soon after Day 1.
- We are considering what the impacts of allowing unit splitting of BR and response services in the **same** direction are. This will not be allowed from Day 1 but is under consideration for the future.
- BR cannot be stacked with reserve services at the moment.

Splitting Matrix		DC		DM		DR		QR		SR		BR	
		DCL	DCH	DML	DMH	DRL	DRH	PQR	NQR	PSR	NSR	PBR	NBR
DC	DCL	NA	Y	Y	Y	Y	Y	Not currently under consideration				C	E
	DCH	Y	NA	Y	Y	Y	Y					E	C
DM	DML	Y	Y	NA	Y	Y	Y					C	E
	DMH	Y	Y	Y	NA	Y	Y					E	C
DR	DRL	Y	Y	Y	Y	NA	Y					C	E
	DRH	Y	Y	Y	Y	Y	NA					E	C
QR	PQR	Not currently under consideration						NA	Y	N	N	N	N
	NQR							Y	NA	N	N	N	N
SR	PSR							N	N	NA	Y	N	N
	NSR							N	N	Y	NA	N	N
BR	PBR	C	E	C	E	C	E	N	N	N	N	NA	Y
	NBR	E	C	E	C	E	C	N	N	N	N	Y	NA

Y	Services can be delivered by the same unit at the same time	C	Under consideration
N	No stacking/splitting	E	Working on for day 1

Changes to the contractual documents

- We updated the service terms to provide increased flexibility for stacking as well as to ensure that provision of MFR (operation in frequency sensitive mode) would not be incompatible with BR delivery.
- Our guidance note will provide the "determination" as highlighted in the terms on the right.

Paragraph	Subject Matter	Change
7.3(a) and 15.4 and definitions	Operation in frequency sensitive mode	We have updated para 15.4 to align with updates made to other service terms, so as to introduce flexibility for ESO to determine that another balancing service may be provided simultaneously with BR (in which case the precedence rule in this clause would not be applicable). We have also confirmed that this will always be the case when a unit is operating in a frequency sensitive mode pursuant to an instruction from ESO, since such operation is not incompatible with BR delivery. As a related change, we have clarified in para 7.3(a) that, for monitoring and payment purposes, delivery volumes will be adjusted for operation in a frequency sensitive mode where in accordance with an ESO instruction.
8.1.1 and 15.4	Delivery from zero	We have simplified para 8.1.1 so that units must be capable of

15.4 Where, during any **Contracted Service Window**, a **Service Provider** is required under the terms of any agreement with **NGESO** to provide from any **Contracted BR Unit** any other **Balancing Service**

(except with respect either to **Reactive Power** or where the **Contracted BR Unit** is operating in **Frequency Sensitive Mode** upon instruction of **NGESO**), the **Parties** agree and acknowledge that, unless **NGESO** determines (acting reasonably) that such service provision is not in conflict with the delivery of **Balancing Reserve**, **Balancing Reserve** cannot be provided simultaneously with such other **Balancing Service** and accordingly:-

15.4.1 unless pursuant to the terms for provision of and payment for such other **Balancing Services** the relevant **Contracted BR Unit** is deemed unavailable to provide **Balancing Reserve** or except as may otherwise be specified by **NGESO** in writing, the relevant **Contracted BR Unit** shall be deemed unavailable to provide such other **Balancing Service**; and

15.4.2 availability of the **Contracted BR Unit** to provide **Balancing Reserve** pursuant to these **BR Service Terms** shall prevail.

For the avoidance of doubt, paragraph 15.4 shall not affect the submission by a **Service Provider** of (1) bids and offers (and the issue of **Bid-Offer Acceptances**) under the **Balancing Mechanism** where not made pursuant to terms agreed with **NGESO** for provision of any other **Balancing Service**, and (2) a **Sell Order** for **Positive Balancing Reserve** and a **Sell Order** for **Negative Balancing Reserve** with respect to the same **BR Unit** and **Contracted Service Window** insofar as permitted by the **BR Procurement Rules**.

Without prejudice to the undertaking in paragraph 15.1, nothing in this paragraph 15 shall prevent or restrict any **Contracted BR Unit** from providing **Balancing Reserve** in any **Contracted Service Window** which overlaps to any extent with service provision under a contract to which the **Service Provider** is a party pursuant to the **Capacity Market Rules**.

download (nationalgrideso.com) – link to the BR service terms, as submitted to Ofgem on 8 December 2023

Stacking

- Providers will be able to bid into the Dynamic response suite and into Balancing Reserve with the same unit at the same time in the **opposite** direction.
- Baskets are independent (up to 25 for Response and up to 100 for Balancing Reserve).
- Welfare cannot be shared across the auction as they are independent.

What additional information would you like to see in the BR guidance note?

Performance monitoring methodology for Balancing Reserve service

Applicable for both Positive and Negative Balancing Reserve contracts.

A unit under Balancing Reserve contract is a subject to performance monitoring in 4 areas:

- Availability
- Flexibility Dispatch
- Time to Full Delivery
- Utilisation

A unit to be awarded the availability payment must meet all conditions in all four areas of performance monitoring process

Details of calculation of each area of performance monitoring is detailed on next slides.

Performance monitoring

This section provides information on the application of the performance monitoring methodology for the Balancing Reserve. The unit participating in the service will be subject to performance monitoring on the Time to Full Delivery, Availability, Flexiblity Dispatch and Utilisation. In the event of any conflict or inconsistency between this document and the Service Terms, the latter shall prevail.

Performance Monitoring of Availability

A contracted unit should be able to provide 100% of contracted headroom of footroom and failure to deliver the contracted availability will trigger an Event of Default (EOD). When a reserve unit triggers an EOD, it will forfeit Availability Payment for all the relevant Committed Windows.

The methodology will calculate the unit's availability using the Dynamic Parameters submitted by EDL/EDT on the Settlement Period or 30-minutes basis. The availability check calculation will be conducted on the Settlement Period or 30-minutes basis during the contracted service windows. The Power Available value will be average across the 30-minutes window for the calculation of availability.
A failure to meet those conditions on the right would result in an Event of Default and withdrawal of availability payments from the relevant and contracted service windows.

Positive Balancing Reserve

For a generator (or a unit with only positive output):

MEL – FPN ≥ Contracted Quantity

For a supplier (or a unit with only negative output):

SIL – FPN ≥ Contracted Quantity

For a bi-directional unit:

MEL – FPN ≥ Contracted Quantity (if SEL and SIL = 0)

Or MEL – FPN ≥ Contracted Quantity (if FPN >0)

Or SIL – FPN ≥ Contracted Quantity (if FPN <0)

For a Power Park Module powered by an Intermittent Power Source:

PA – FPN ≥ Contracted Quantity

Negative Balancing Reserve

For a generator (or a unit with only positive output):

FPN – SEL ≥ Contracted Quantity

For a supplier (or a unit with only negative output):

FPN – MIL ≥ Contracted Quantity

For a bi-directional unit:

FPN – SEL ≥ Contracted Quantity (if FPN >0)

FPN – MIL ≥ Contracted Quantity (if FPN <0)

Dynamic Parameter definitions:
FPN – Final Physical Notification, MEL – Maximum Export Limit, SEL – Stable Export Limit, MIL – Maximum Import Limit, SIL – Stable Import Limit, PA – Power Available.

Performance monitoring

This section provides information on the application of the performance monitoring methodology for the Balancing Reserve. The unit participating in the service will be subject to performance monitoring on the Time to Full Delivery, Availability, Flexiblity Dispatch and Utilisation. In the event of any conflict or inconsistency between this document and the Service Terms, the latter shall prevail.

Performance Monitoring of Flexibility Dispatch

A contracted unit must be capable of being dispatched during contracted service windows in accordance to following rules:

- being dispatched from any prevailing Stable Export Limit or Stable Import Limit (which for the avoidance of doubt may be 0MW) or from any other higher level of Output or Demand
- being dispatched for all or part of its Contracted Quantity and in one or multiple consecutive increments of one 1MW
- being dispatched for a single or multiple consecutive periods each of not less than 1 minute duration (representing a minimum activation period) which for these purposes shall exclude Ramping Periods.

The methodology will calculate the unit's flexibility dispatch conditions using the Dynamic Parameters submitted by EDL/EDT on the Settlement Period or 30-minutes basis. A failure to meet those conditions on the right would result in an Event of Default and withdrawal of availability payments from the relevant and contracted service windows.

Positive Balancing Reserve

For a generator (or a unit with only positive output):

FPN ≥ SEL

For a supplier (or a unit with only negative output):

FPN ≤ SIL

For a bi-directional unit:

FPN ≥ SEL (if FPN >0)

FPN ≤ SIL (if FPN >0)

Or SIL or SEL = 0

For a Power Park Module powered by an Intermittent Power Source:

FPN ≥ SEL

Negative Balancing Reserve

For a generator (or a unit with only positive output):

FPN ≥ SEL

For a supplier (or a unit with only negative output):

FPN ≤ SIL

For a bi-directional unit:

FPN ≥ SEL (if FPN >0)

FPN ≤ SIL (if FPN >0)

Or SIL or SEL = 0

Dynamic Parameter definitions:
FPN – Final Physical Notification, MEL – Maximum Export Limit, SEL – Stable Export Limit, MIL – Maximum Import Limit, SIL – Stable Import Limit,

Performance monitoring

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Performance Monitoring of Time to Full Delivery

A contracted unit must be capable to achieve the full contracted capacity within a Time to Full Delivery parameter from the dispatch instruction. The Time to Full Delivery parameter is set at 10 minutes for Balancing Reserve and it is inclusive of Notice to Offer or Notice to Bid time parameters.

The methodology will calculate the unit's time to full delivery requirements using the ramp rates submitted as Dynamic Parameters submitted by EDL/EDT on the Settlement Period or 30-minutes basis. A failure to meet the 10-minutes condition would result in an Event of Default and withdrawal of availability payments from the relevant and contracted service windows.

Time to Full delivery calculations

For a generator (or a unit with only positive output):

$$Time\ to\ full\ delivery\ [minutes] = \frac{Contracted\ capacity\ [MW]}{Ramp\ Rate\ for\ Export\ [\frac{MW}{minute}]}$$

For a supplier (or a unit with only negative output):

$$Time\ to\ full\ delivery\ [minutes] = \frac{Contracted\ capacity\ [MW]}{Ramp\ Rate\ for\ Import\ [\frac{MW}{minute}]}$$

For a bi-directional unit:

$$(if\ FPN\ \geq 0)$$

$$Time\ to\ full\ delivery\ [minutes] = \frac{Contracted\ capacity\ [MW]}{Ramp\ Rate\ for\ Export\ \left[\frac{MW}{minute}\right]}$$

$$(if\ FPN < 0)$$

$$Time\ to\ full\ delivery\ [minutes] = \frac{Contracted\ capacity\ [MW]}{Ramp\ Rate\ for\ Import\ [\frac{MW}{minute}]}$$

The check

For all units:

Time to full delivery (calculated as above) + Notice to Bid/Offer ≤ 10 minutes

Dynamic Parameter definitions:
FPN – Final Physical Notification

Performance monitoring

This section provides information on the application of the performance monitoring methodology for the Balancing Reserve. The unit participating in the service will be subject to performance monitoring on the Time to Full Delivery, Availability, Flexiblity Dispatch and Utilisation. In the event of any conflict or inconsistency between this document and the Service Terms, the latter shall prevail.

Performance Monitoring of Utilisation

The unit must be delivering within the acceptable ramping envelope in accordance to time to full delivery parameter, when ramping to and from the instructions. To clarify, the unit must cease from the instruction in the time defined as time to full delivery or 10 minutes.

Under-delivery below 95% contracted capacity will mean availability payments for the relevant service window will be withheld. Utilisation payments will be made for all energy delivered. Over-delivery is not penalised by the performance monitoring, however availability payments will be capped at 100%.

The methodology will measure the unit's utilisation using settlement metering and bid/offer volumes from BM, which is provided on the Settlement Period or 30-minutes basis.
A failure to meet the utilisation conditions will results in the Event of Default and withdrawal of availability payments from the relevant and contracted service windows.

The utilisation calculations

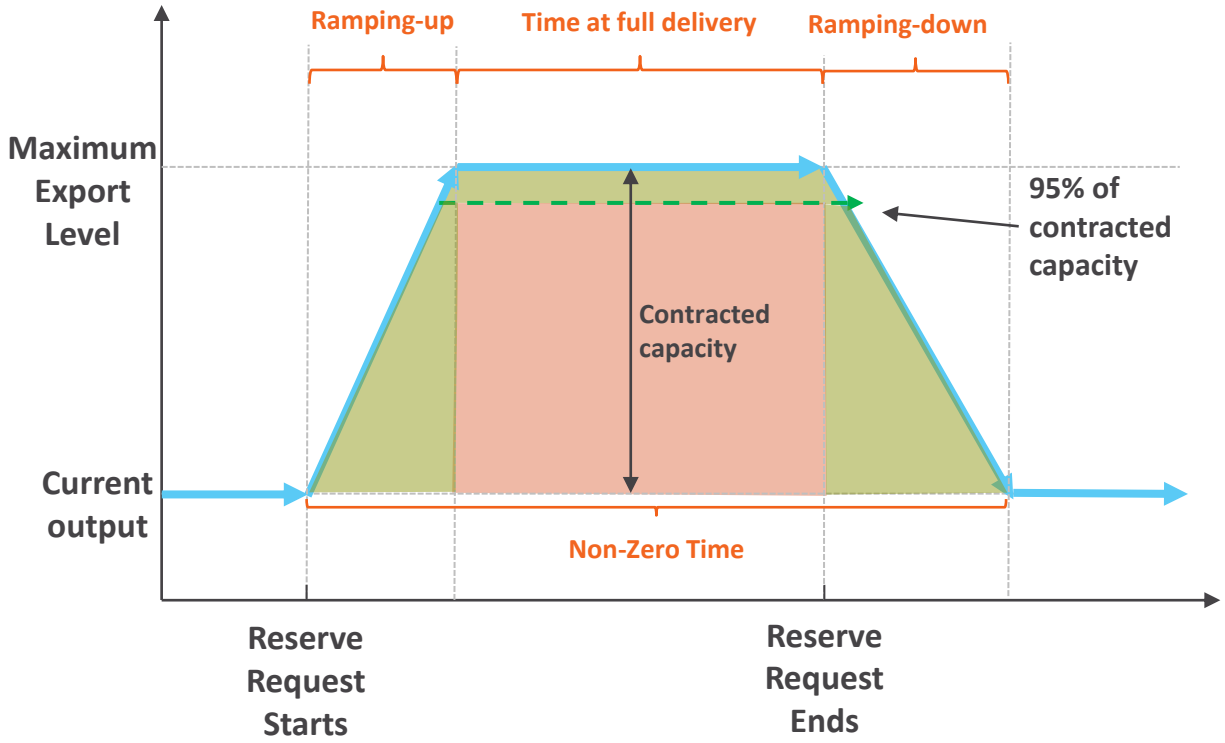
For all units

Expected output = FPN + Bid/Offer volume

The check

For all units:

Expected output * 95% ≥ Settlement metering



Dynamic Parameter definitions:
FPN – Final Physical Notification

Q&A

ESO