Public

Quick Reserve NBM Phase 2: Industry Drop-in

27 March 2025

NESO
National Energy System Operator

Agenda

1. QR Overview
2. OBP Process
3. OBP Key Dates
4. OBP NBM API Testing Registration
5. STAR Process
6. STAR Key Dates
7. STAR Settlement Metering Testing Registration
8. Q&A

QR Overview

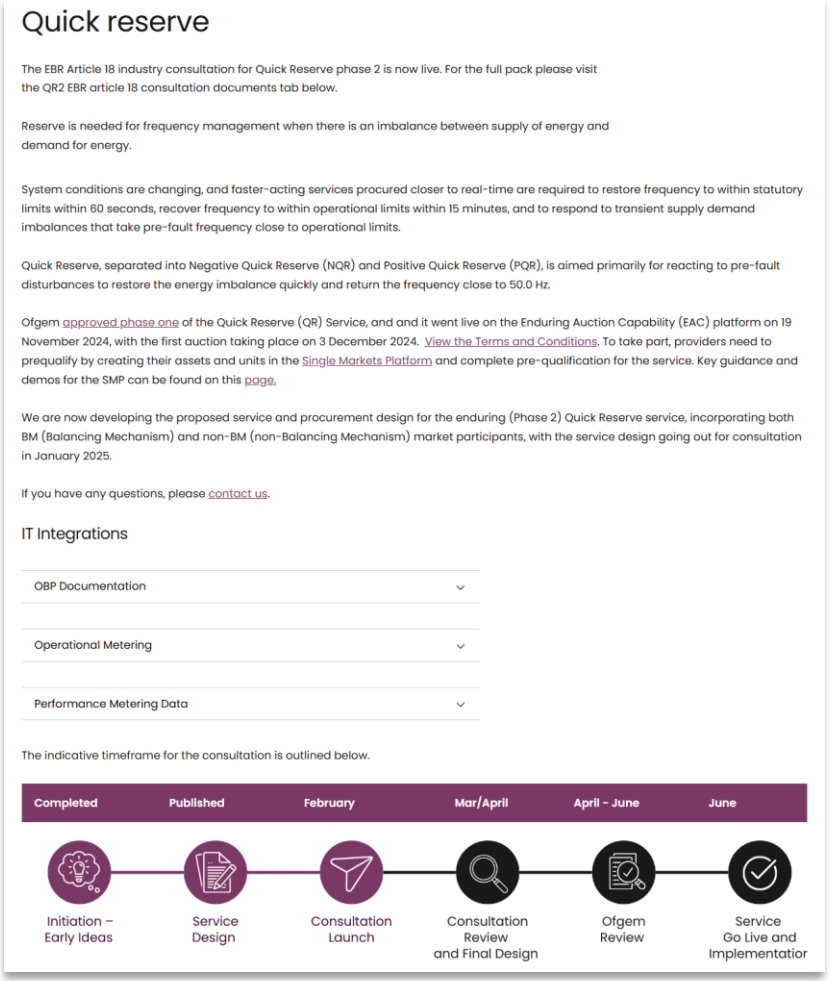
Overview of NBM & Quick Reserve – References

Quick Reserve - Article 18 Consultation commenced in February 2025; further information available **here.**

Drop-in Sessions Recordings: Quick reserve | National Energy System Operator

Quick Reserve References:

- **Quick Reserve** – NESO **Quick Reserve website** inc. details of:
  - Quick Reserve **Service Terms**
  - **Service and Procurement Design**
  - **Crossover Guidance**
  - **IT Integration** – NBM Web Service (v4), Operational Metering, Performance Metering
  - OBP Technology Stakeholder Forum webinar 18th March slides and webinar recording (includes NBM Integration deep dive)



Quick reserve

The EBR Article 18 industry consultation for Quick Reserve phase 2 is now live. For the full pack please visit the QR2 EBR article 18 consultation documents tab below.

Reserve is needed for frequency management when there is an imbalance between supply of energy and demand for energy.

System conditions are changing, and faster-acting services procured closer to real-time are required to restore frequency to within statutory limits within 60 seconds, recover frequency to within operational limits within 15 minutes, and to respond to transient supply demand imbalances that take pre-fault frequency close to operational limits.

Quick Reserve, separated into Negative Quick Reserve (NQR) and Positive Quick Reserve (PQR), is aimed primarily for reacting to pre-fault disturbances to restore the energy imbalance quickly and return the frequency close to 50.0 Hz.

Ofgem approved phase one of the Quick Reserve (QR) Service, and and it went live on the Enduring Auction Capability (EAC) platform on 19 November 2024, with the first auction taking place on 3 December 2024. View the Terms and Conditions. To take part, providers need to prequalify by creating their assets and units in the Single Markets Platform and complete pre-qualification for the service. Key guidance and demos for the SMP can be found on this page.

We are now developing the proposed service and procurement design for the enduring (Phase 2) Quick Reserve service, incorporating both BM (Balancing Mechanism) and non-BM (non-Balancing Mechanism) market participants, with the service design going out for consultation in January 2025.

If you have any questions, please contact us.

IT Integrations

OBP Documentation

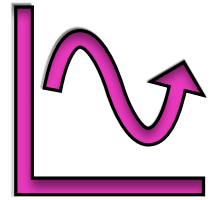
Operational Metering

Performance Metering Data

The indicative timeframe for the consultation is outlined below.

What does NBM Quick Reserve Do?

Quick reserve



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See NESO Quick Reserve webpage for more details – click **here**

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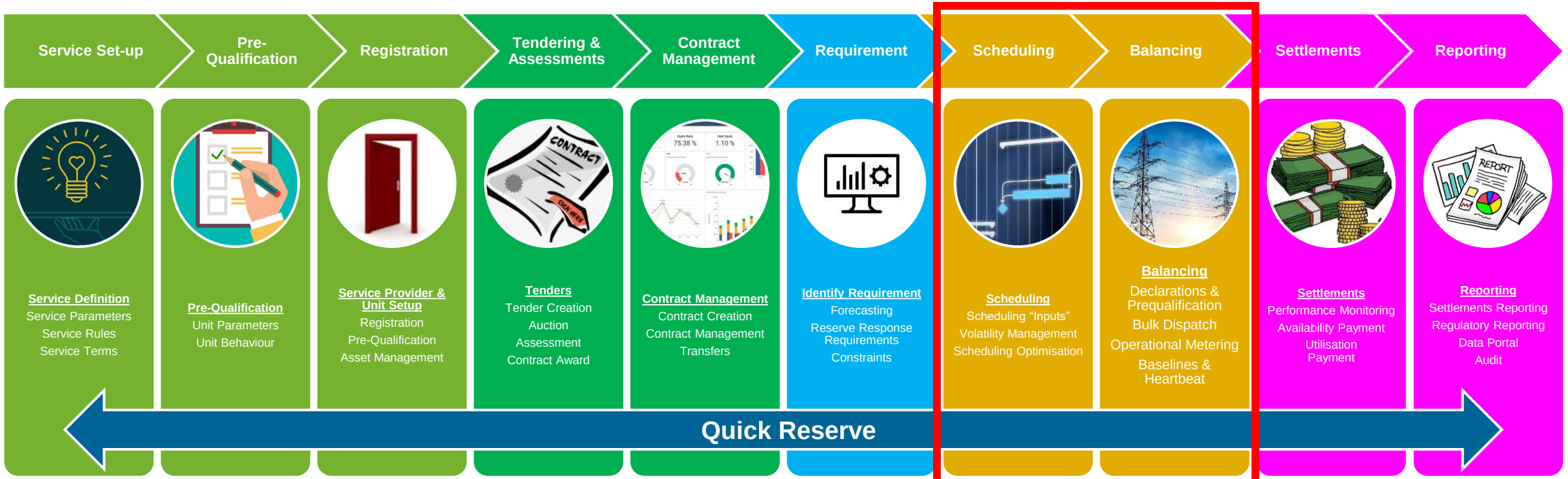
Market Participant Journey – Quick Reserve

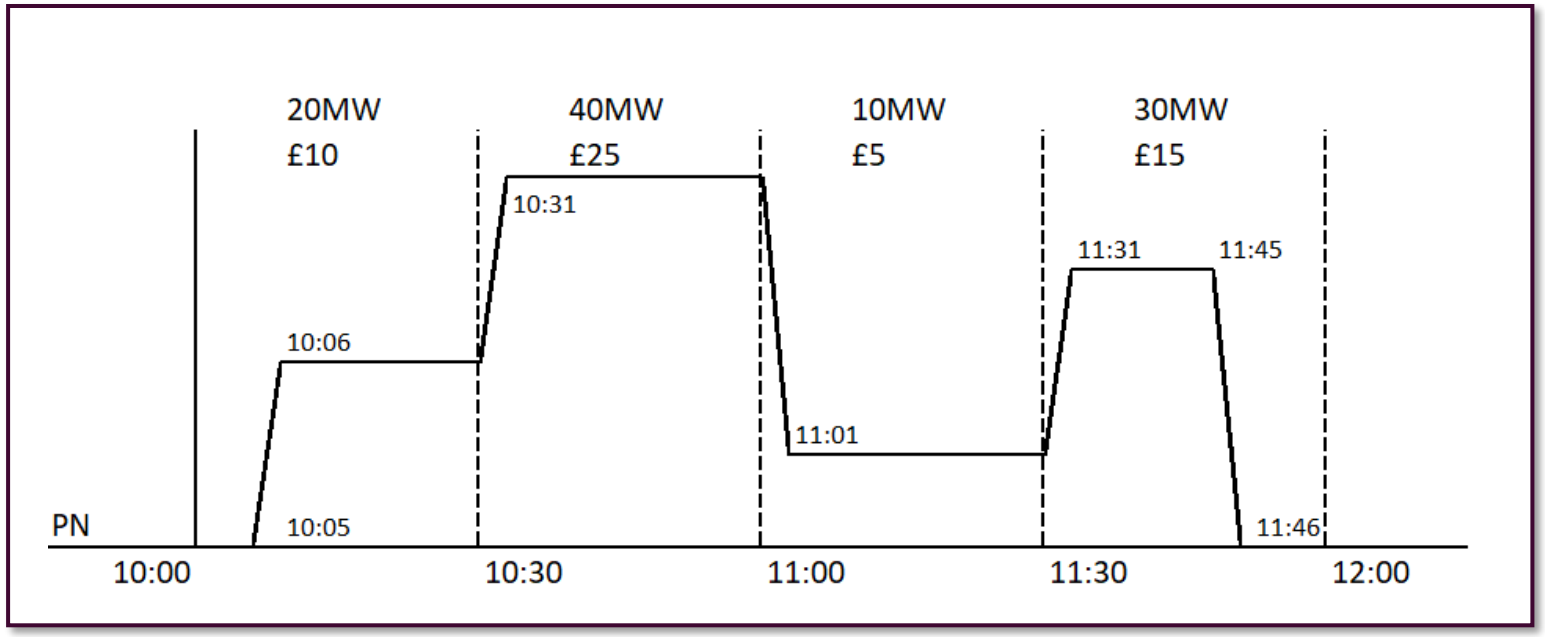


Open Balancing Platform (OBP)

OBP Process

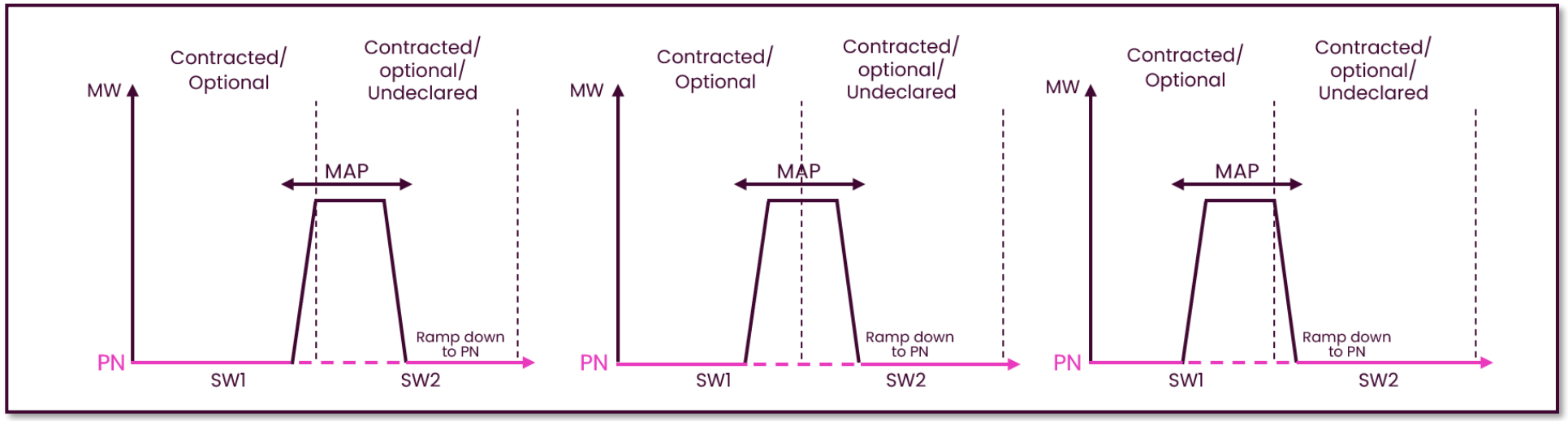
NBM Instruction Profile

- Following a START instruction, the unit should continue to follow declared available MW profile (following crossover guidance) until Ceased, or if the declared profile returns to PN
- Once the unit has returned to PN, the unit should not deviate from PN unless a subsequent START instruction is received
- In the example, the instruction profile starts at 10:05, and continues until a Cease instruction with a (start to) Cease at 11:45 before returning to PN at 11:46
- NESO could send a Cease at any time after the Minimum Activation Period (MAP) period has been honoured after 10:05 (unless an Emergency Cease is required)



Service Window Crossovers (1)

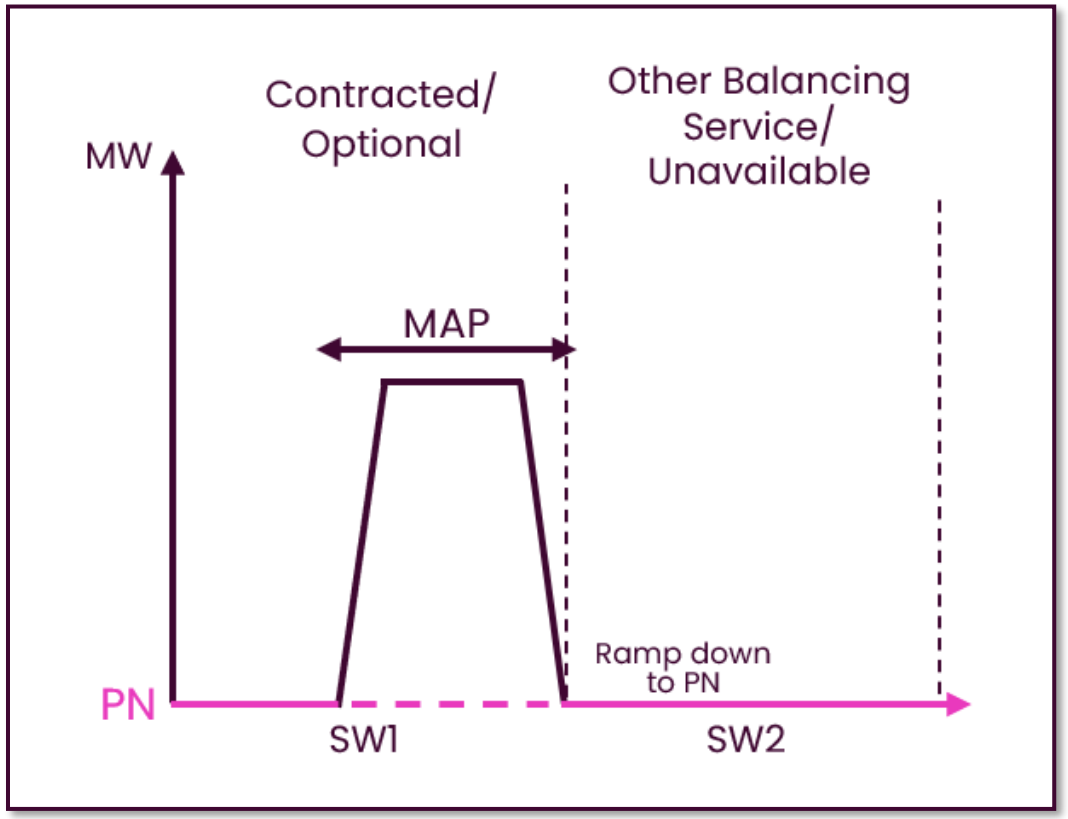
- NESO requires Quick Reserve units, either contracted or declared optionally available, to deliver at least to their Minimum Activation Period (MAP)
- As such, if an instruction is started near the end of a service window (SW), then the unit would need to continue to run for up to 4 mins (as determined through its MAP) into the next service window
- A crossover is not required if the subsequent service window is contracted/declared for a different balancing service
- A separate crossover guidance document is available



- Quick Reserve requires a unit's MAP to be no greater than 5 minutes.
- Therefore, the latest that NESO can instruct a unit for, and for a Crossover not to apply, is 5 minutes ahead of the end of a service window

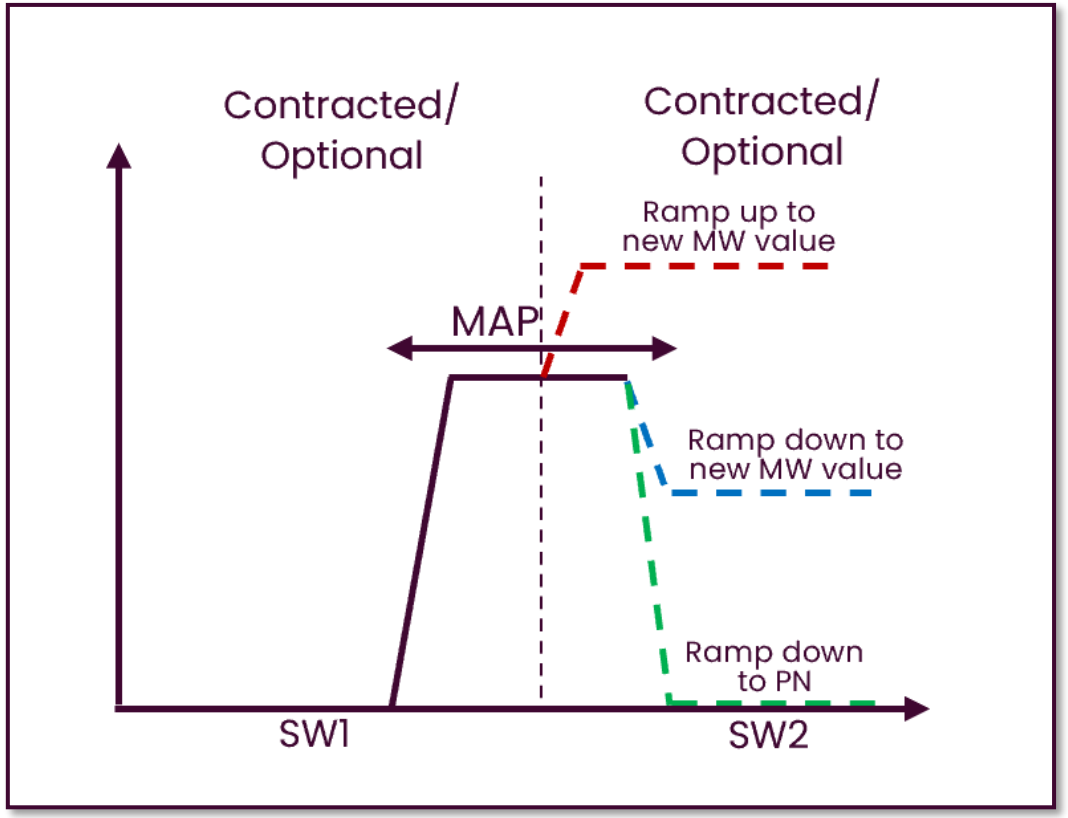
Service Window Crossovers (2)

- Where the subsequent Service window is contracted/declared for a different Balancing Service, then a crossover is not required
- If there was not sufficient time to create a QR instruction in SW 1 and honour the MAP, then no QR instruction would be created in SW 1
- Where there is sufficient time to conclude the MAP within SW 1, then the unit will cease and return to PN for the end of SW 1 following a cease instruction
- The diagram illustrates the last possible time a QR instruction can be issued in this scenario



Service Window Crossovers (3)

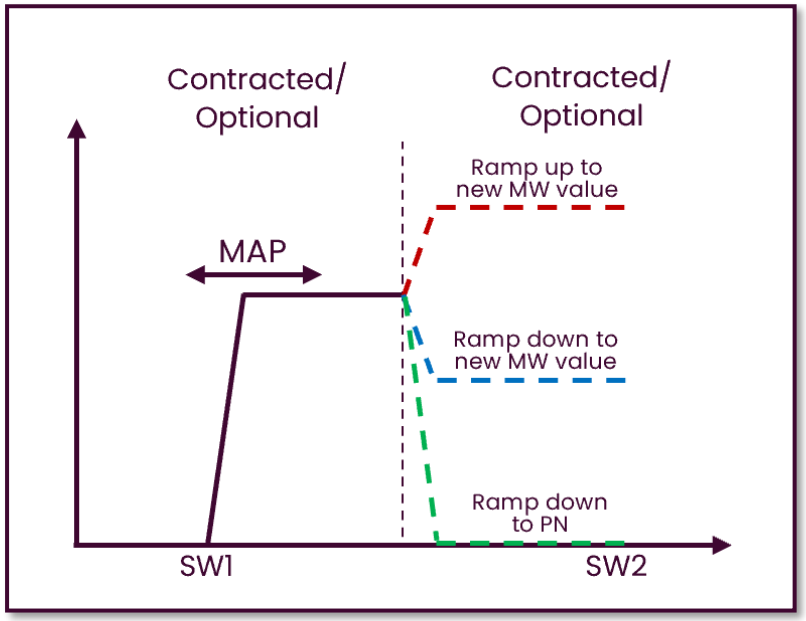
- If a crossover is required, then output should be maintained at least for the duration of the MAP at the same MW or higher, in the subsequent service window
  - If the subsequent service window has a higher MW, then the unit should ramp up to the higher MW immediately at the start of the subsequent service window
  - If the subsequent service window has a lower MW, then the unit should remain at the MW level from the first service window ramping down to the subsequent service window reaching that level at the end of MAP
- The price paid for utilisation of energy for service window 2 will be the declared price for service window 2

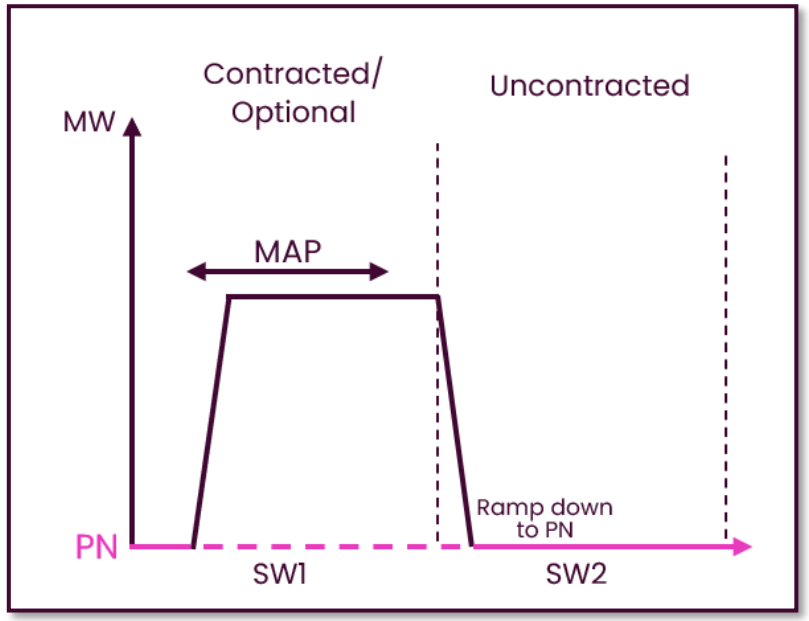


Service Window Crossovers (4)

- If a unit was declared for QR (contracted or optional), and if the MAP was honoured in a service window, then the instruction should be maintained at that level until the end of the service window before ramping to the subsequent service window MW level; unless a Cease instruction is received earlier (Left image)

- If a unit was declared for QR (contracted or optional) in service window 1, and the subsequent service window was not contracted for another Balancing Service and had no declaration; and if the MAP was honoured in first service window, then the instruction should be maintained at that level until the end of the service window before ramping to PN, unless a Cease instruction was received earlier (right image)
  - Service providers may submit a price only declaration for service window 2 when they do not have a contract, to support meeting their service window 1 obligations, otherwise the price from service window 1 will be used for the MAP/ramp down period in service window 2





OBP Key Dates

OBP Non-BM Quick Reserve Timeline

11 Oct 2024
Proposed Service and Procurement Design published to industry

15 Nov 2024
Industry feedback closed

19 Dec 2024
OBP NBM API interface specification published

12 Feb 2025
Article 18 consultation published

May 2025
OBP Non-BM Market Participant Testing (MPT) to commence

Enduring Quick Reserve service go live

Other NBM

- NBM Slow Reserve (& BM) expected Sep 2025
- NBM Dynamic Response expected Sep-Oct 2025
- NBM MW Dispatch expected Oct+ 2025

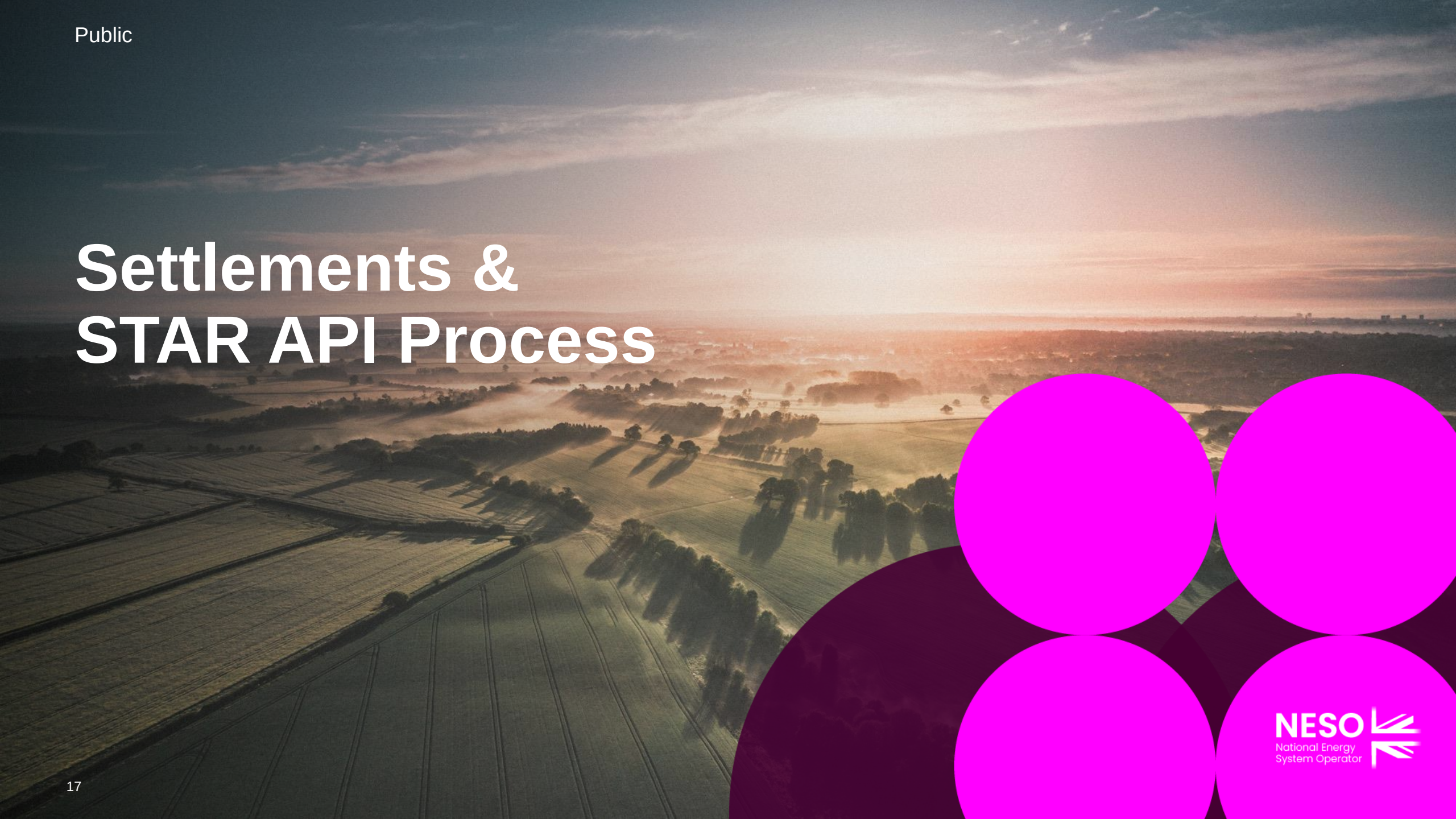
OBP Testing Registration

OBP Non-BM Integration Market Participant Testing

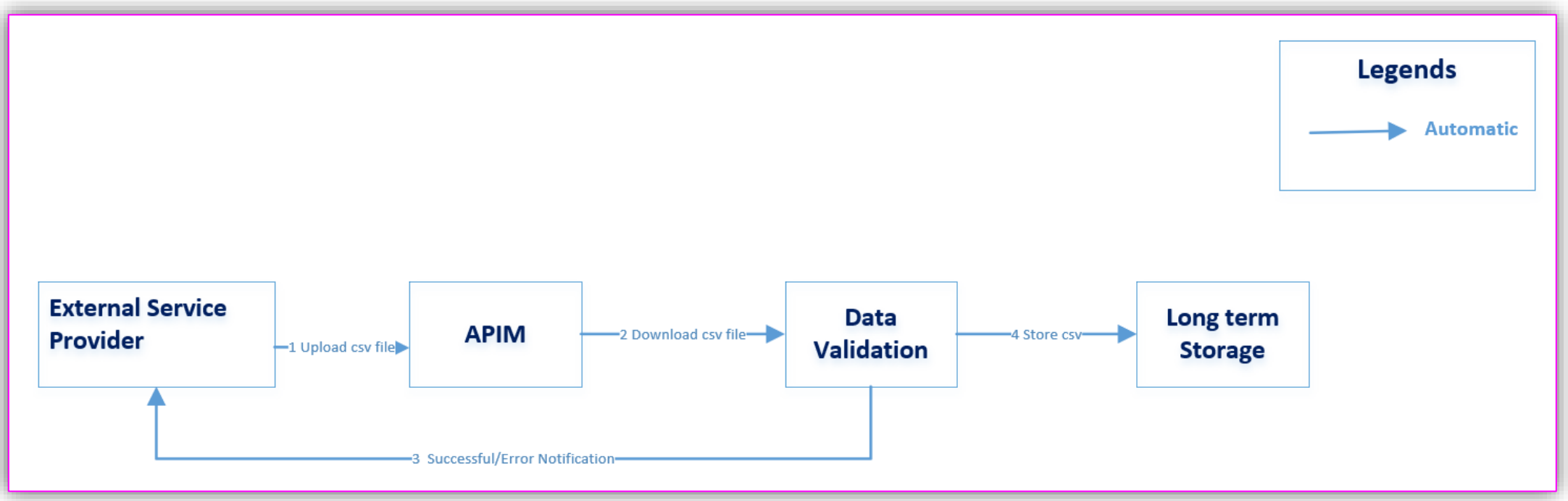
- The OBP Non-BM Market Participant Testing (MPT) is intended to prove connectivity, functional and technical integration, and conformance to the Service Terms and Business Logic for the Service
- Expected to start at the beginning of May 2025
- Service Provider (SP) & NESO OBP teams to perform testing
  - OBP & SP to share respective connection details (IPs, URLs, credentials)
  - Sanity connectivity testing to confirm connectivity established between NESO & SP
  - SP to provide prequalification and registration details
  - Once connectivity established, then functional testing to be conducted against the Business Logic Document – i.e. PNs, declarations, instructions, instruction profiles, heartbeat
- Once OBP Non-BM MPT is complete, then progression to next stage (Ready for Production Onboarding) would happen once all other systems/integrations are confirmed, with a target activation date for all systems and SPs

OBP Non-BM Integration Testing - NESO are seeking interested providers to assist our system implementation teams ahead of the Quick Reserve Phase 2 go-live. We would like to hear from providers interested in supporting testing - sign-up to support testing **here** or scan the QR code; you can also contact your account manager.

Settlements & STAR API Process



Performance Metering API design



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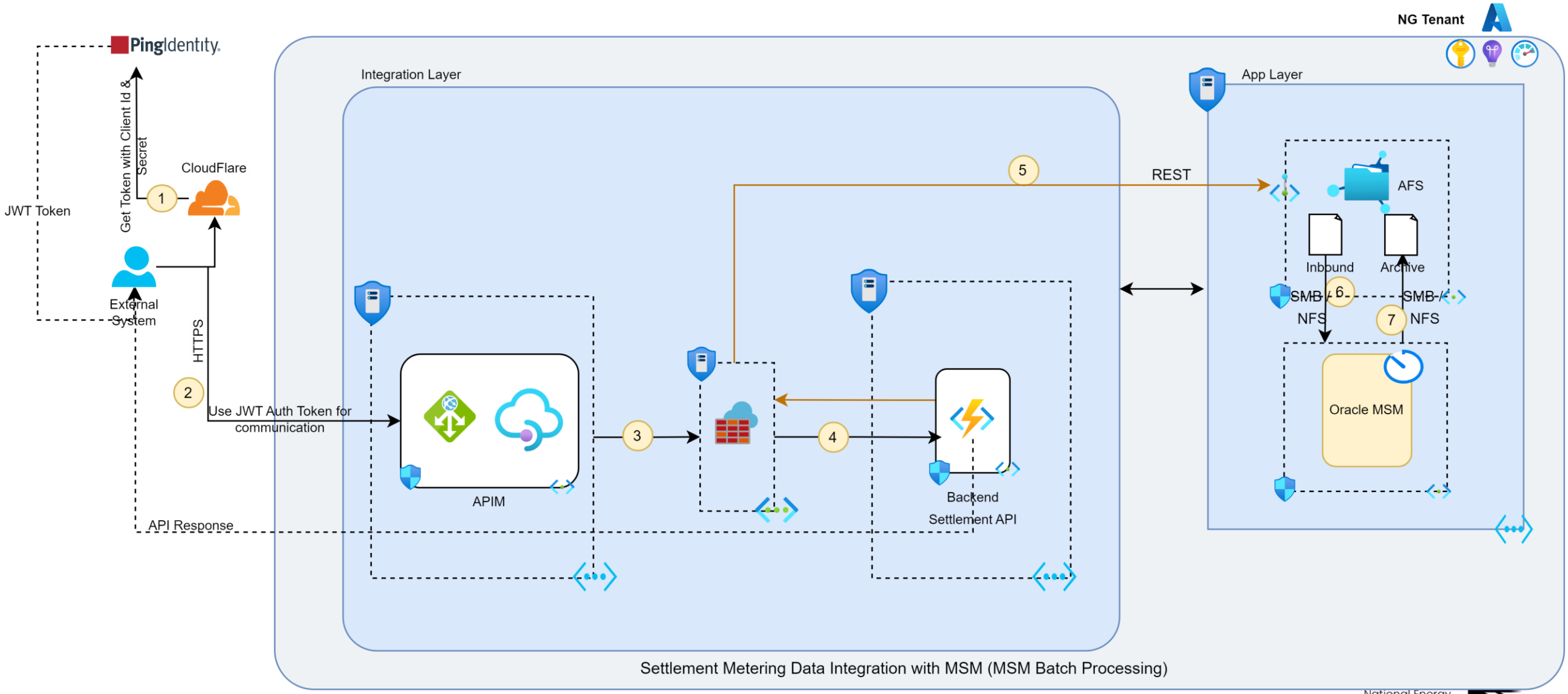

Link: [STAR Project - Quick Reserve- Performance Metering Data file Specification v0.1.pdf]

Performance Metering – API details

How to get credentials

1. Existing EAC participants can use same Client ID/ secrets to access STAR APIM as used in EAC.
2. Registration process for new EAC participants is TBC

API details

TBD

Link: STAR Project - Quick Reserve- Performance Metering Data file Specification v0.1.pdf

Performance Metering – File details

Column Name	Column Description	Data Type	Mandatory/ Optional	Sample Value
NESO Unit ID	NESO Unit Code	String	Mandatory	ABCD-1
Effective Date and Time (GMT)	Datetime of the meter reading in format YYYY-MM-DDTHH24:mm:ss	Date	Mandatory	2024-10-17T23:00:00
Meter Value	Meter reading in MW	Numeric (up to 6 dec. places)	Mandatory	3.9

Service Providers submit previous day performance metering data, within each file containing second-by-second records for a contract day. Please refer to the table below for the file structure.

Link: STAR Project - Quick Reserve- Performance Metering Data file Specification v0.1.pdf

Performance Metering – File details

File specifications

Filename: UID_YYYYMMDD(Contracted_DAY).csv where UID is a unique unit identifier reference, and YYYYMMDD is contracted day

File Format: Comma delimited text file

File Size:< 10 MB

Frequency: Daily

File will contain:

- Data for Unit per file per day
- comma delimited records in a text file format
- one header record followed by data records.

Example of csv delimited text file:

```
1   NESOUnitID,DateTimeofMeterReading,MeterReading
2   ABCD-1,2024-10-17T23:00:00,3.3
3   ABCD-1,2024-10-17T23:00:01,3.3
4   ABCD-1,2024-10-17T23:00:02,3.3
5   ABCD-1,2024-10-17T23:00:03,3.5
6   ABCD-1,2024-10-17T23:00:04,3.7
7   ABCD-1,2024-10-17T23:00:05,3.9
8   ABCD-1,2024-10-17T23:00:06,4.1
9   ABCD-1,2024-10-17T23:00:07,4.3
10  ABCD-1,2024-10-17T23:00:08,4.5
11  ABCD-1,2024-10-17T23:00:09,4.7
12  ABCD-1,2024-10-17T23:00:10,4.9
13  ABCD-1,2024-10-17T23:00:11,5.1
14  ABCD-1,2024-10-17T23:00:12,5.3
15  ABCD-1,2024-10-17T23:00:13,5.5
16  ABCD-1,2024-10-17T23:00:14,5.7
```

Link: STAR Project - Quick Reserve- Performance Metering Data file Specification v0.1.pdf

STAR Key Dates

Performance Metering – Key dates

April
- Market Participants start onboarding to the test Performance Metering API
- Market Participants can start testing their data submission

May
- Ongoing Market Participant Testing

June
- Production API go live - link and credentials shared

July
- First Live Auction; daily submission of Performance Metering files starts

August
- Initial Prelim and Final statements produced

Link: STAR Project - Quick Reserve- Performance Metering Data file Specification v0.1.pdf

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STAR Settlement Metering Testing Registration

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Q&A

Thanks for attending