Public

Slow Reserve Onboarding

November 2025

NESO
National Energy System Operator

Onboarding webinar

1. Welcome and Key messages
2. BM and Non-BM requirements and Participant journey
3. SMP onboarding
4. EAC onboarding
5. Open Balancing Platform
6. Operational Metering
7. Settlements - API & Performance Metering
8. Key links and contacts
9. Q&A

Slow Reserve Key Messages

Key Dates

- SR Go-live announced as 31 March 2026 with STOR ending on 30 March 2026
- Additional information available in the Transition Plan on the website

If you are a STOR provider

There will be new Registration, Auction, Balancing system (non-BM), Operational Metering (non-BM), and Settlement requirements from the systems you currently use in STOR today.

Onboarding

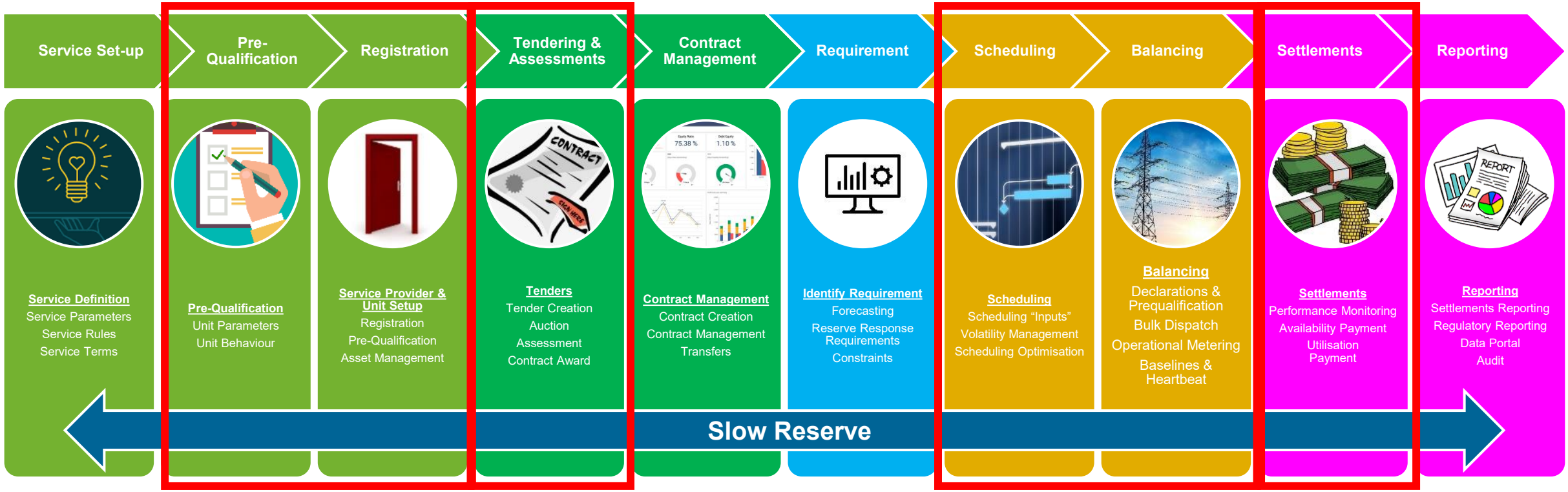
NESO are committed to working with all existing and new providers that wish to participate in SR from go-live.

Providers are encouraged to reach out to their Account Manager or commercial.operation@neso.energy ASAP. You'll be supported through the onboarding process to help you be ready for go-live.

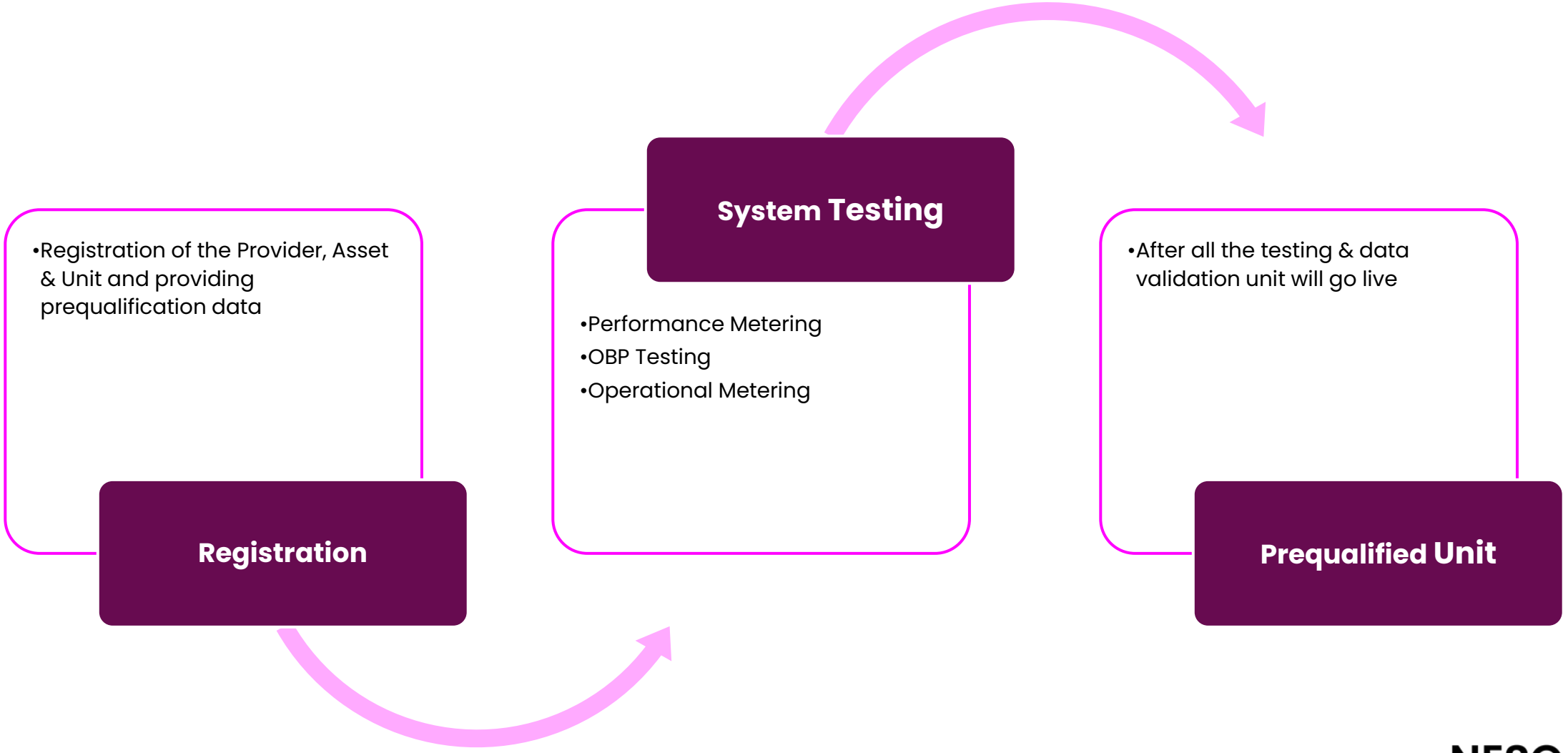
BM and non-BM Slow Reserve Requirements

Onboarding Step	System	BM	Non-BM
Registration of Assets/Units	SMP	✓	✓
Performance Metering Testing	STAR	✓	✓
Balancing System Testing	OBP	✗	✓
Operational Metering Testing	iHost	✗	✓
EAC Access	EAC	✓	✓

Market Participant Journey – Slow Reserve



Prequalification Steps



SMP Onboarding

In preparation for service go live we recommend new providers enter SMP, and begin setting themselves up for Slow Reserve

New Providers

- Set up your company on SMP
- Create your Assets and Units you wish to use for Slow Reserve
- Align your Units and Assets within SMP, for prequalification
- Submit new units for the service
- Ensure Non-BM assets have MPAN populated for ABSVD validation
- Submitted Non-BM units can then be used to trigger OBP testing
- Performance metering submission via API testing
- Operational metering submission for Non-BM via iHost (Data Concentrator)

SMP Guidance is available online, as a user guide and demo videos and if you have any issues with SMP, please contact commercial.operation@neso.energy

Existing providers and STOR units

We will actively reach out to you in the coming days to understand your appetite to enter the Slow Reserve service and what steps you will need to take in order to register your STOR units for the Slow Reserve service

EAC

Drop-in session – 9th December

- We plan on holding a drop-in session on 9th December
- More information on this session will be sent out via the NESO newsletter
- In this session, NSIDE will do a demo of the sandbox environment showing:
  - The improvements we have made to the EAC UI - these changes are in preparation for Slow Reserve going live in March 2026
  - We will show industry the screens they will be seeing in sandbox from 10th Dec and then production from end-Jan 2026
  - Further communication forums will be held in 2026 as we get closer to the launch of Slow Reserve in March 2026

Sandbox Environment

- Providers are able to access the sandbox environment to test bid submissions via the UI or API calls.
- Sandbox UI URL – https://sandbox.eac.neso.production.n-side.com/marketparticipant
- SMP Registration is NOT required for entry into the sandbox
- If you wish to register for sandbox or require API credentials, please contact minesh.solanki@neso.energy

- The 14:00 auctions in the sandbox environment will contain Response services (DC, DM & DR) & Reserve services(Quick Reserve, Slow Reserve & Balancing Reserve) from **10th December** onwards

OBP Integration Slow Reserve

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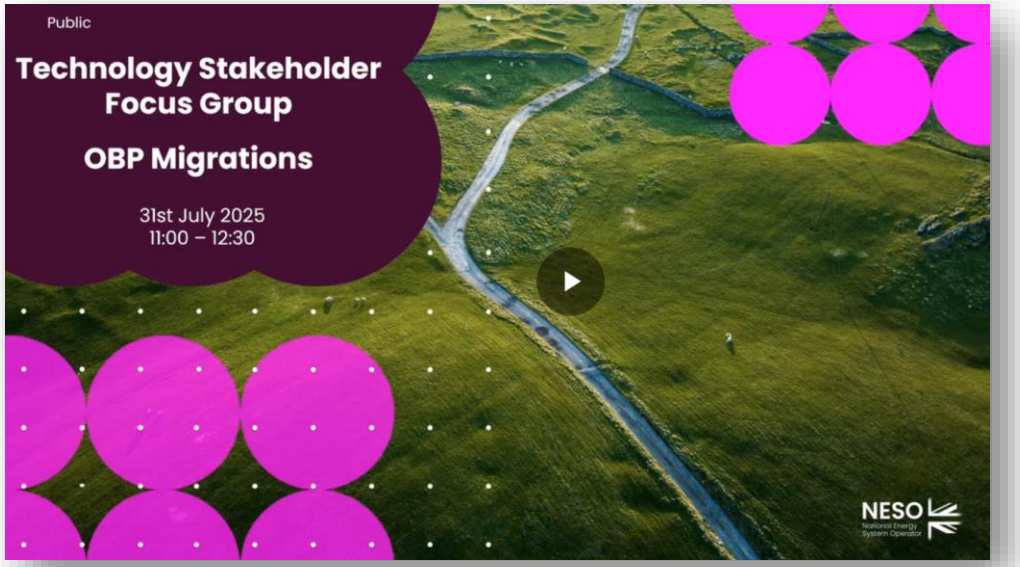
NBM Migration to OBP Recap - Web Services & SIG

NBM services are currently supported on the Ancillary Services Dispatch Platform (ASDP) and need to be **migrated to OBP**, as we look to retire ASDP in the future.

We have delivered a series of Technology Focus Groups throughout 2024 & 2025 covering NBM to OBP migration. Catch up below on our most recent forum from July 2025; access the slides here.



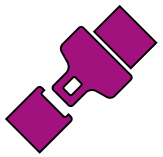
NBM providers integrating with OBP, will do so via the new **NESO Secure Internet Gateway** (SIG).

The existing ASDP NBM API has been updated (v4) for NESO branding for OBP, otherwise the API is **structurally unchanged** to minimise impact to market participants.

- Existing providers with STOR (Short Term Operating Reserve) and Fast Reserve services on ASDP **do not need to make any changes whilst on ASDP**.
- Providers implementing the new Reserve Services, Quick and Slow Reserve **will need to implement the new version** (as well as the new Reserve Service Terms and Business Logic) when they integrate with OBP.
- Providers that deliver dynamic response products with NBM registered units (existing and new) **will be required to integrate with OBP**.

NESO Secure Internet Gateway

NESO has implemented a **new Secure Internet Gateway (SIG)** to support communication with Market Participants with OBP over the Internet



The SIG is a robust solution designed to protect NESO Critical National Infrastructure (CNI) Balancing Systems, assuring the security of internet traffic by providing comprehensive visibility into the content of incoming requests

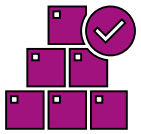
This is further enhanced through **strict IP whitelisting**, allowing interaction only from approved sources

Communication with OBP for NBM Services will need to be via the SIG

Providers will need to **exchange connection details (IPs) and credentials** with NESO, and will need to set up in our respective gateway and network controls

For NESO, this can take up to 3 weeks, however, this can be completed in advance of any integration and market participant testing

Once set up for the first service (e.g. NBM Quick Reserve/Dynamic Response), it will not need to be performed again, unless integration details change.



For example, if providers have been integrated with the new NESO SIG as part of onboarding for NBM Quick Reserve, they will not need to do this step again for NBM Dynamic Response and Slow Reserve

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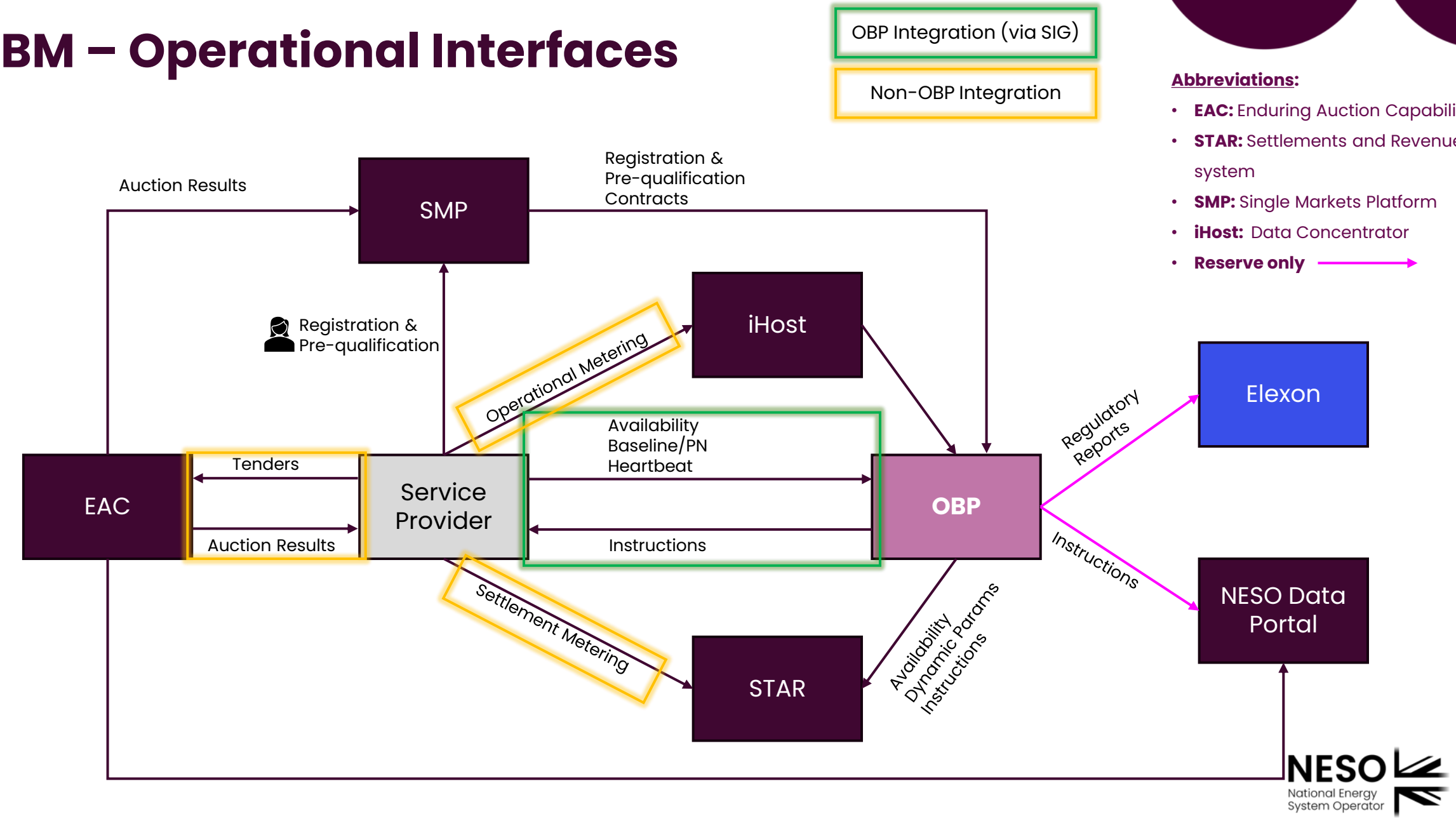
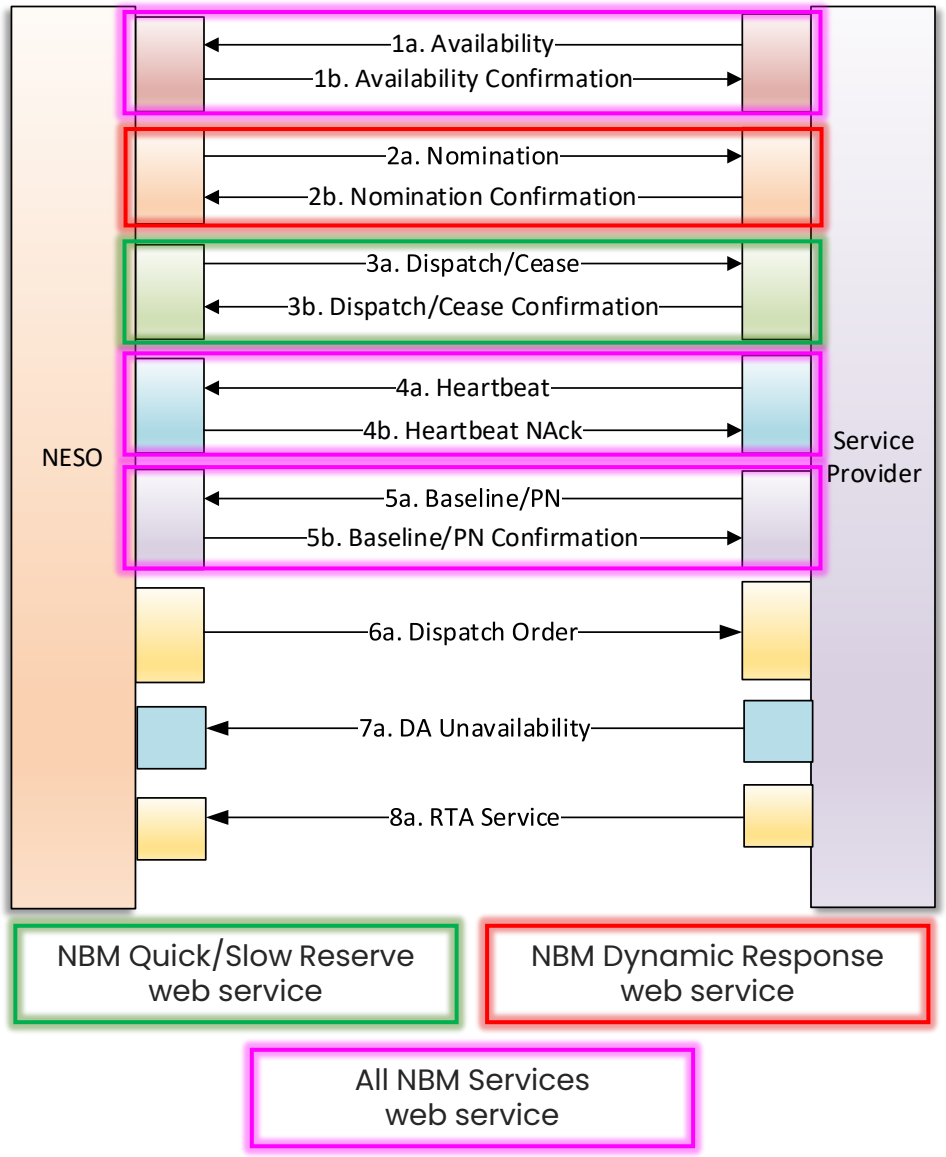
NBM – Operational Interfaces



Abbreviations:

- **EAC:** Enduring Auction Capability
- **STAR:** Settlements and Revenue system
- **SMP:** Single Markets Platform
- **iHost:** Data Concentrator
- **Reserve only** →

NBM API Web Services



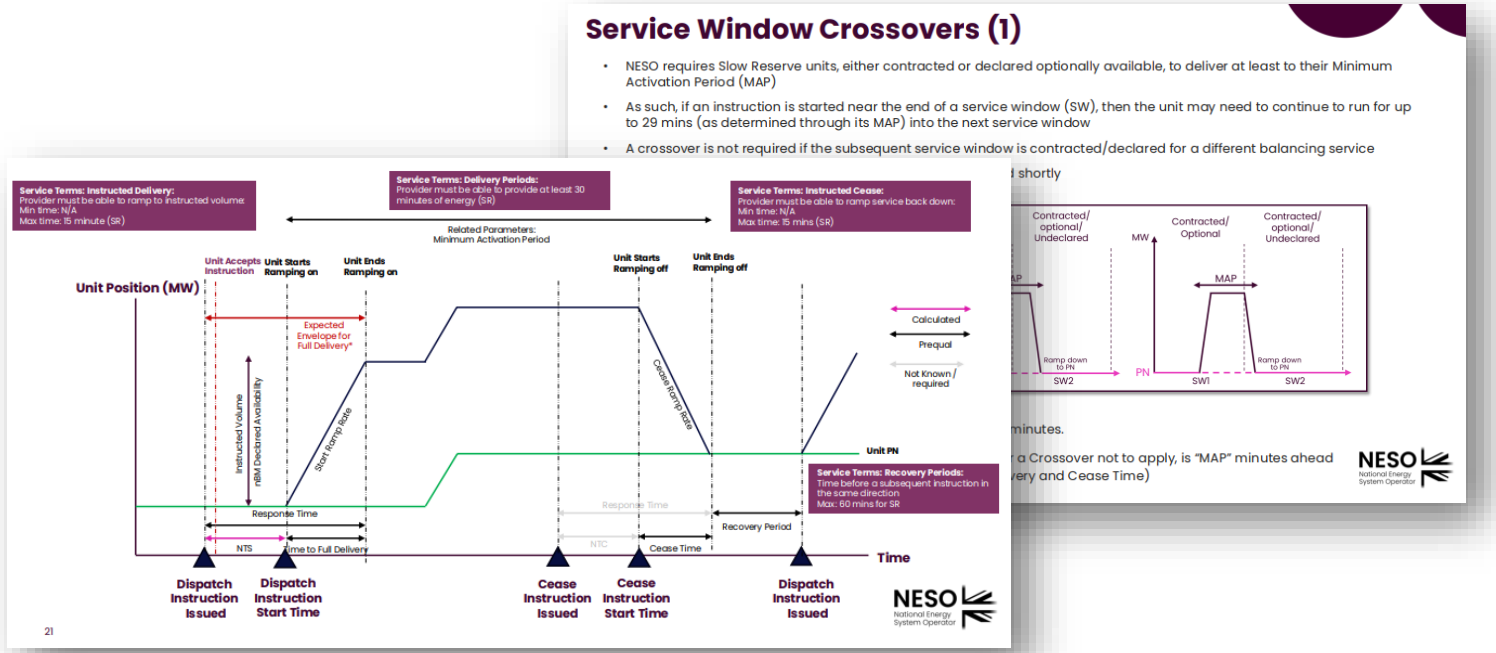
Web Service	NBM Quick Reserve	NBM Slow Reserve	NBM ASR Response
Availability	Y	Y	Y
Availability Confirmation	Y	Y	Y
Nomination (Disarm/Rearm)			Y
Nomination Confirmation			Y
Dispatch/Cease Instruction	Y	Y	
Dispatch/Cease Confirmation	Y	Y	
Heartbeat	Y	Y	Y
Heartbeat Negative Acknowledgement	Y	Y	Y
Physical Notification	Y	Y	Y
Physical Notification Confirmation	Y	Y	Y

Looking for further information on technical & service integration details with OBP for Slow Reserve?

Slow Reserve was covered in detail in our **July Technology Focus Group** including:

- NBM Slow Reserve parameters & key data items
- Ramp rate calculation
- Availability declarations
- PN & Heartbeat requirements
- Dispatch & Cease instructions
- Instruction profiles
- Service Window crossovers

Watch the webinar *here* & download the slide pack *here* – slide 20 – 33.



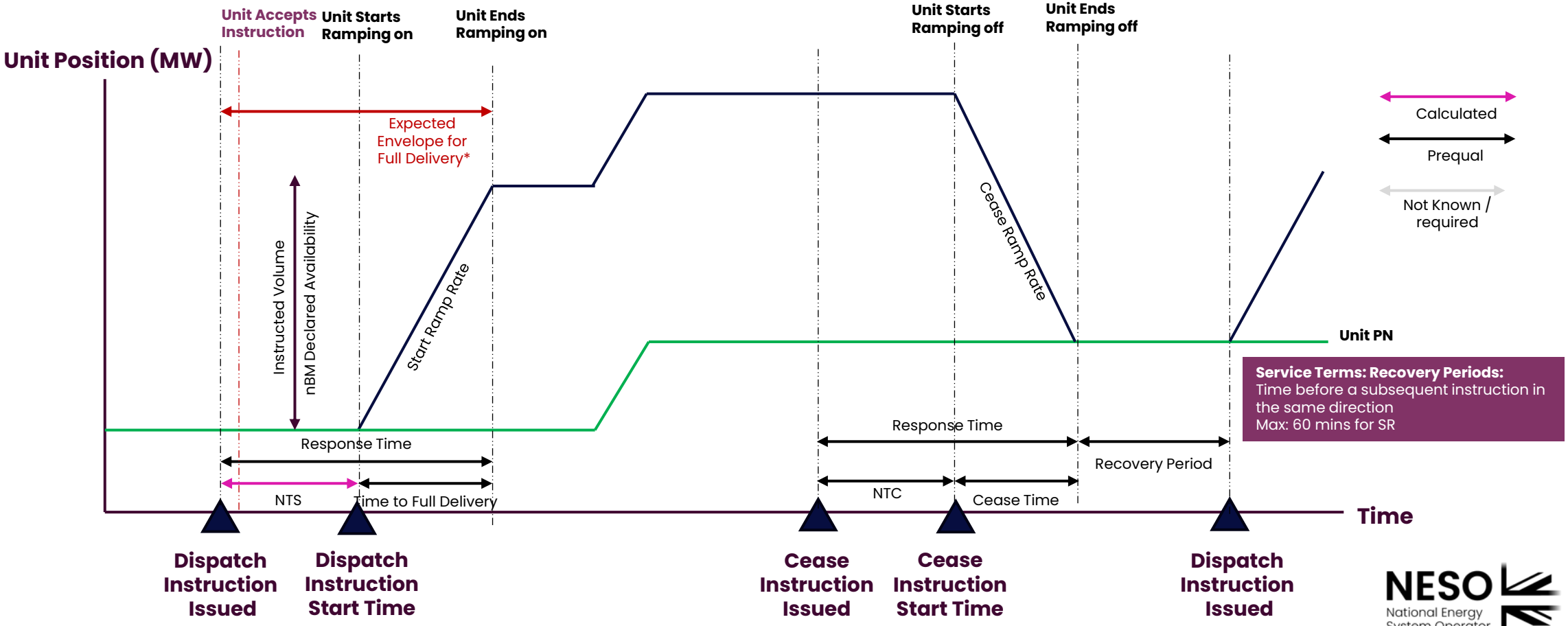
Visual Representation of Parameters

Service Terms: Instructed Delivery:
Provider must be able to ramp to instructed volume:
Min time: N/A
Max time: 15 minute (SR)

Service Terms: Delivery Periods:
Provider must be able to provide at least 30 minutes of energy (SR)

Related Parameters:
Minimum Activation Period

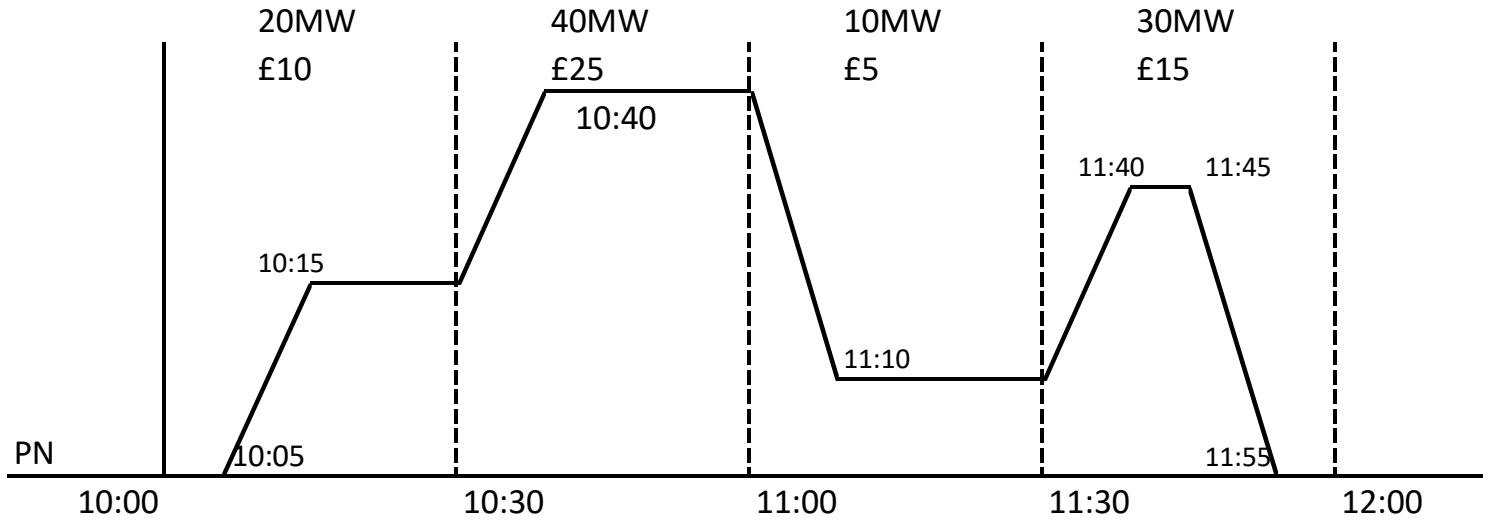
Service Terms: Instructed Cease:
Provider must be able to ramp service back down:
Min time: N/A
Max time: 15 mins (SR)



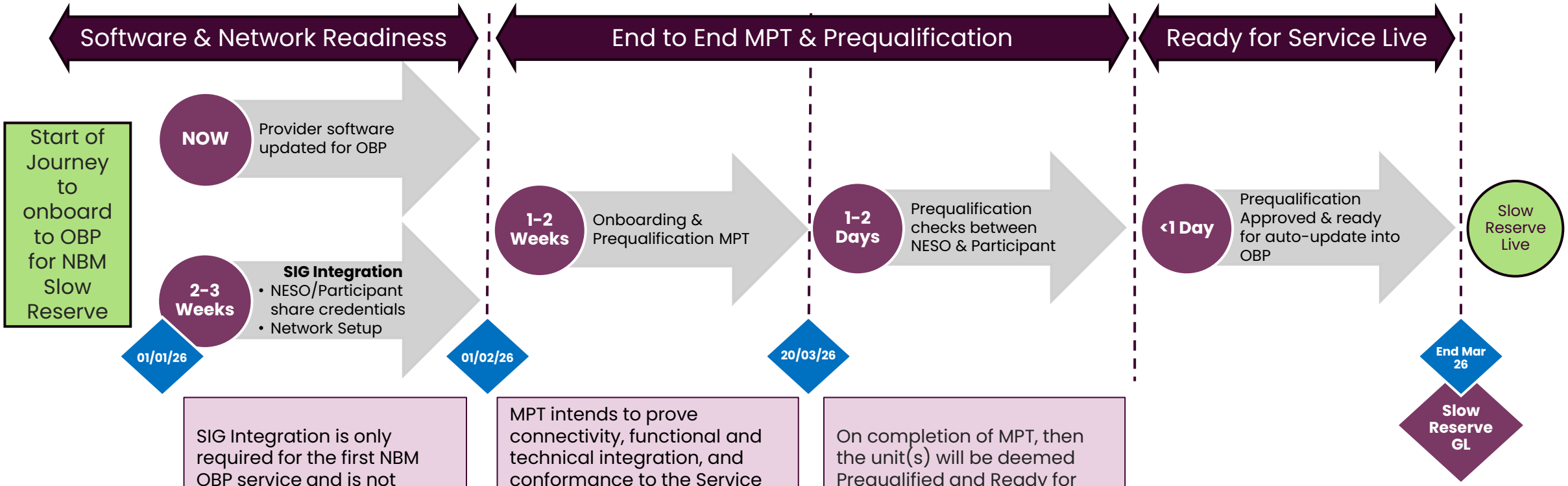
Service Terms: Recovery Periods:
Time before a subsequent instruction in the same direction
Max: 60 mins for SR

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 reaching its declared MW level at 10:15, and continues until a Cease instruction with a (start to) Cease at 11:45 before returning to PN at 11:55. This example assumes 10 min time to full delivery and cease time, but can be up to 15 mins for either.
- 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)



OBP NBM Slow Reserve Onboarding Timeline



* The range of time period allows for time taken to make corrective actions, such as defects, process changes etc

xxx Required start of stage date to ensure readiness for Slow Reserve Go Live

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
- Non-BM Slow Reserve MPT is expected to be available from December 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 (inc. crossovers), heartbeat
- Once OBP Non-BM Slow Reserve MPT is complete, then progression to next stage (Ready for Production Onboarding) would happen once all other systems/integrations are confirmed – and targeted for the Slow Reserve Service Go Live (or a later target activation date if not completed in time)

Helpful Information:

- Contract manager – **commercial.operation@neso.energy**
- **Slow Reserve website (Business Logic Document, IT Integration documents)**

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OBP Integration Next Steps

Prepare for new Technical and Service integration for NBM Slow Reserve on OBP – aligning with the target dates for each stage

Contact contract managers & the Balancing Programme for any queries regarding NBM Market Participant Testing & Migration

commercial.operation@neso.energy / box.balancingprogramme@neso.energy

Updated NBM Slow Reserve Business Logic Document and Crossover Guidance are published *here* under IT integrations, together with WSDL files that formally define the interface between service providers and the OBP application

Operational Metering

Operational Metering Requirements

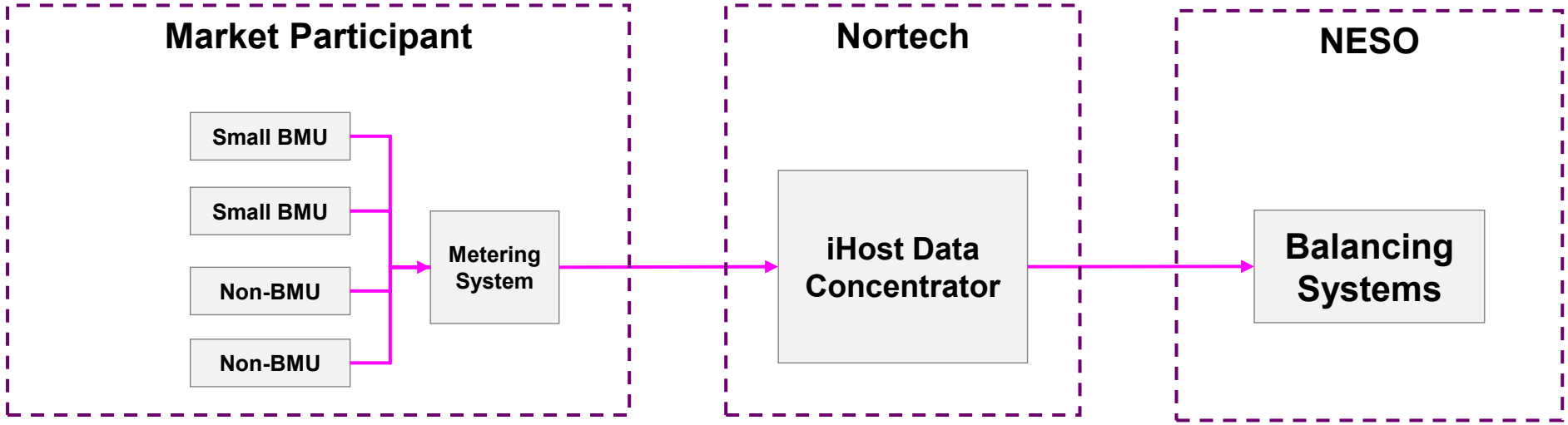
All Slow Reserve (**both BM and NBM**) providers will be required to submit Operational Metering data to NESO in real-time, with a minimum frequency of once per 15 seconds (0.0667Hz) and a latency of no greater than five (5) seconds.

The minimum data point requirement is to send Active Power data, plus any additional BM requirements for BM units.

All operational metering should be provided at an accuracy according to the relevant Code of Practice.

Follow the operation metering technical document for any technical details.

Operational Metering Architecture

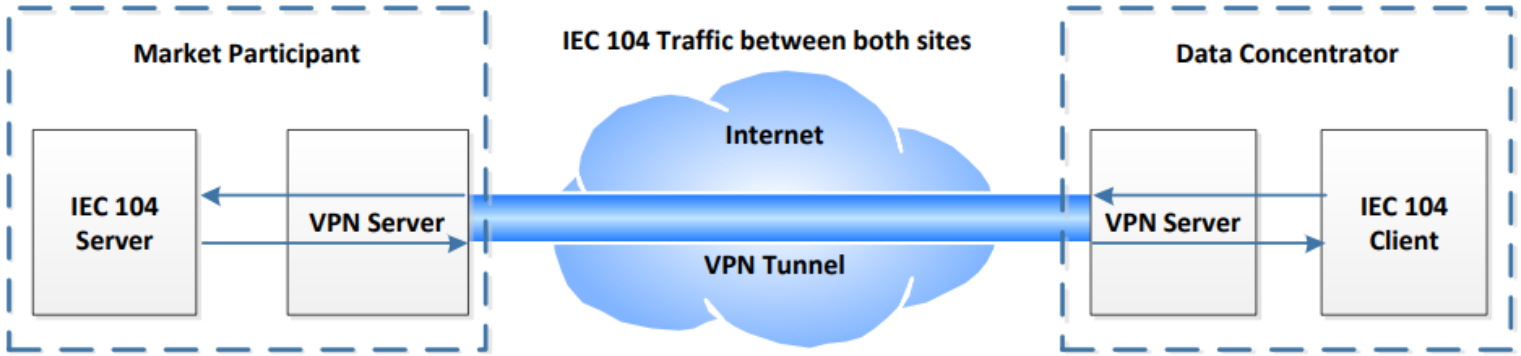


- **Operational Metering** provides real-time visibility to NESO of energy resources (Small BMUs and Non-BMUs)
- **iHost** acts as the **Data Concentrator** allowing market participants to send Operational Metering for multiple services over the internet using standard protocols
- **Nortech** provides iHost as a managed service to NESO
- Nortech assist with **onboarding** new Operational Metering connections including connection set-up and metering signal testing
- Market Participants may send Operational Metering for **multiple units** over the same connection
- If a Market Participant already has a connection for other services (BM, Dynamic Response), then they may **reuse** for **Slow Reserve**

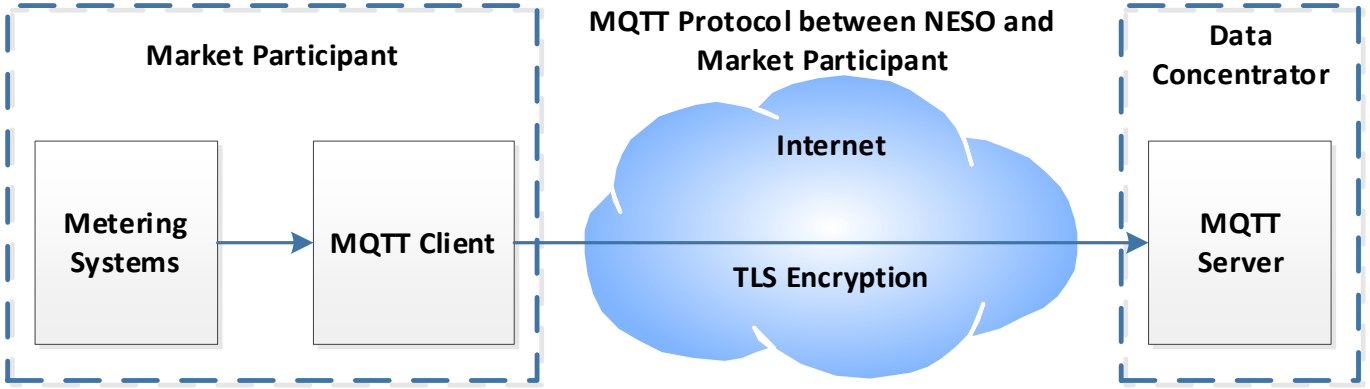
Operational Metering Integration Protocols

Market Participant has choice of either IEC104 or MQTT.

IEC104



MQTT



Operational Metering Onboarding

Existing Service Providers

Existing providers who are already providing Operational Metering for other balancing services should connect with their account manager at commercial.operation@neso.energy to submit evidence of their existing Operational Metering data.

New Service Providers

New providers need to register themselves for providing Operational Metering service and should connect with their account manager to ask for the Pro-forma & configuration file:

- The Pro-forma needs to be completed for the system configuration. Single Pro-forma can be used for more than one unit. And should be sent to the **Operational Metering team** (box.SmallBmuOpsMeter-neso@neso.energy) copying in your account manager.

Onboarding of new connection

Preparation

- Market Participant reviews and understands requirements defined in Operational Metering Architecture
- Market Participant prepares their IT environment ready for connection to iHost

Data Exchange (1 week)

- Market Participant submits completed pro-forma and configuration file to NESO Operational Metering Team
- NESO Operational Metering Team verify pro-forma and configuration file, assign CASDU and send on request to Nortech

Set-up (1 week)

- Nortech complete setup of new connection in iHost and share access details with Market Participant
- Market Participant completes configuration and establishes connection to iHost

Testing (2-3 weeks)

- Market Participant schedules metering signal testing with Nortech
- Market Participant fixes any non-compliance issues
- NESO Operational Metering Team confirm connectivity

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Onboarding of new unit on existing connection

Preparation

- Market Participant configures existing connection to collect operational metering for new unit

Data Exchange (1 to 2 days)

- Market Participant submits updated pro-forma and configuration file to NESO Operational Metering Team
- NESO Operational Metering Team verifies the pro-forma and configuration file and confirms the new unit can be added to existing connection

Set-up (1 to 2 days)

- NESO Operational Metering Team loads the updated configuration file into iHost

Testing (1 to 2 days)

- NESO Operational Metering Team confirm connectivity directly with Market Participant

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Performance Metering

Settlements API Process

Performance Metering Requirements

All Slow Reserve (**both BM and NBM**) will be required to submit Performance Metering data to NESO by no later than 24 hours following the end of the operational day and this will be used for settlement purposes.

Via the new API, a file will represent 1 submission per unit, for an operational day, for contracted or optional settlement periods plus subsequent settlement period (for cross overs), with 1 data point recorded per 15 second. Providers do have the option to send data per 1 second if preferred.

Data can be re-submitted within a 24-hour submission period. If an issue is identified within the file, NESO will send a real-time notification with an error code to the provider to resend the file. If the file validation checks have passed, then NESO will send a successful notification in real-time.

Where Performance Metering data is not received within the specified time NESO will withhold payments in respect to the Operational Day.

More detail can be found in the 'IT Integration' section of the slow reserve webpage.

The table below refers to the file structure.

Please note a file cannot contain a combination of 1 second and 15 second data.

Filename: ***SR_UID_YYYYMMDD**.csv*

SR stands for Slow Reserve, UID is a unique unit identifier reference.

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

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Performance Metering Onboarding

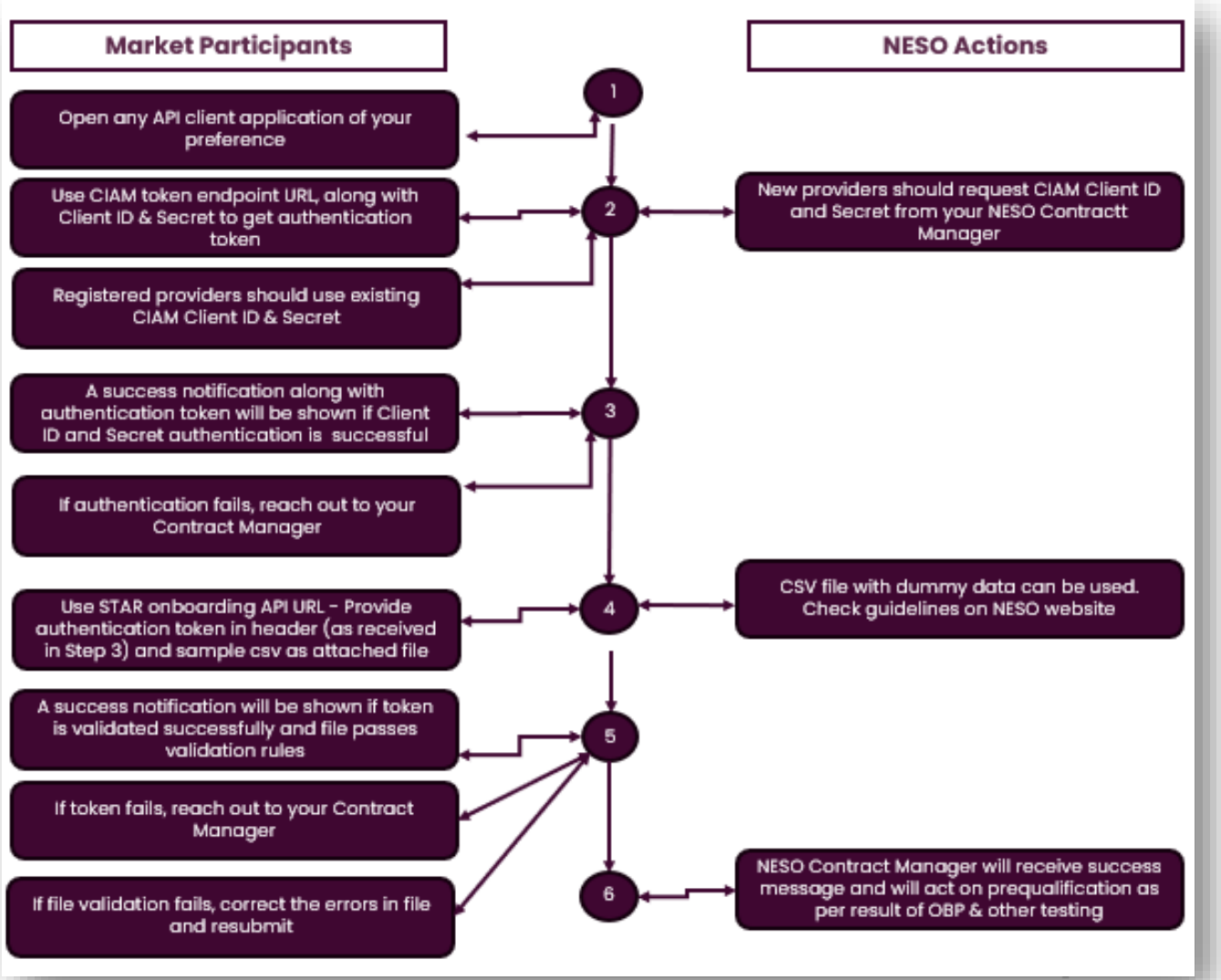
Performance Metering set-up and testing is a requirement by **both BM and non-BM** slow reserve participants.

Your NESO Contract Manager will request CIAM Client ID and secret for new providers not registered to SMP/EAC. The Performance Metering onboarding API is available to use right away.

If you are an existing Quick Reserve participant and already using the Performance Metering API there is no need for you to request a new Client ID. The API is the same for both QR and SR.

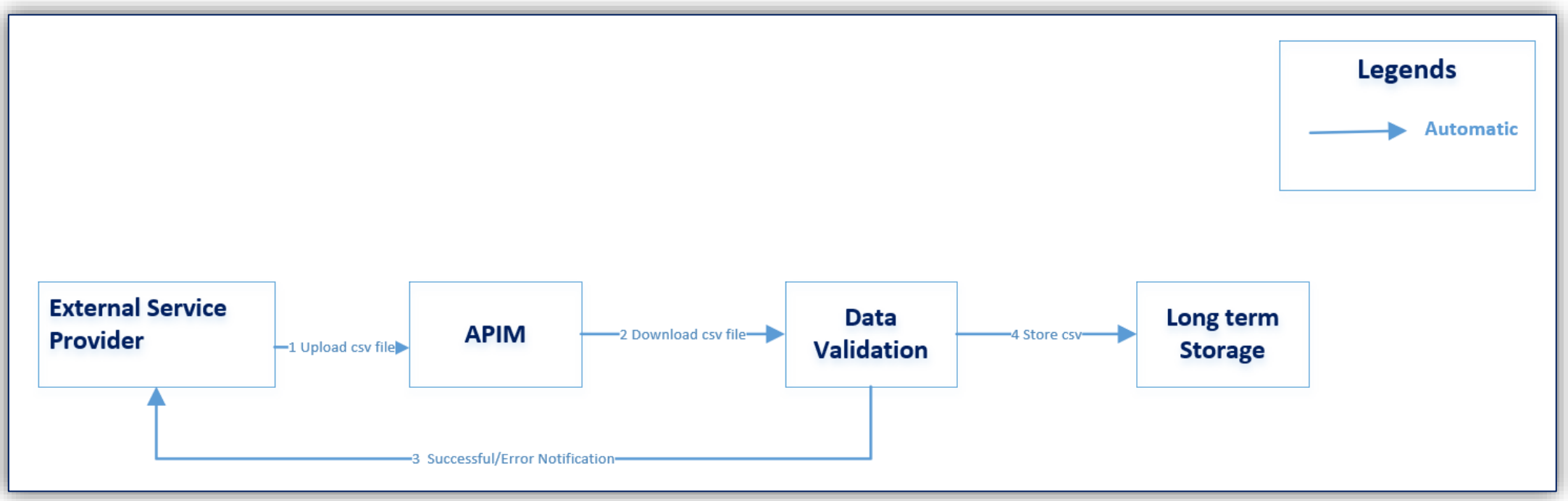
Providers can expect to follow the steps to the right throughout the **'registration'** stage when looking to verify your Performance Metering API connection, a prerequisite for prequalification of the service.

More detail can be found in the 'IT Integration' section of the slow reserve webpage.



Contact Details: NESO Contract Manager, Commercial.operation@neso.energy

Performance Metering API design



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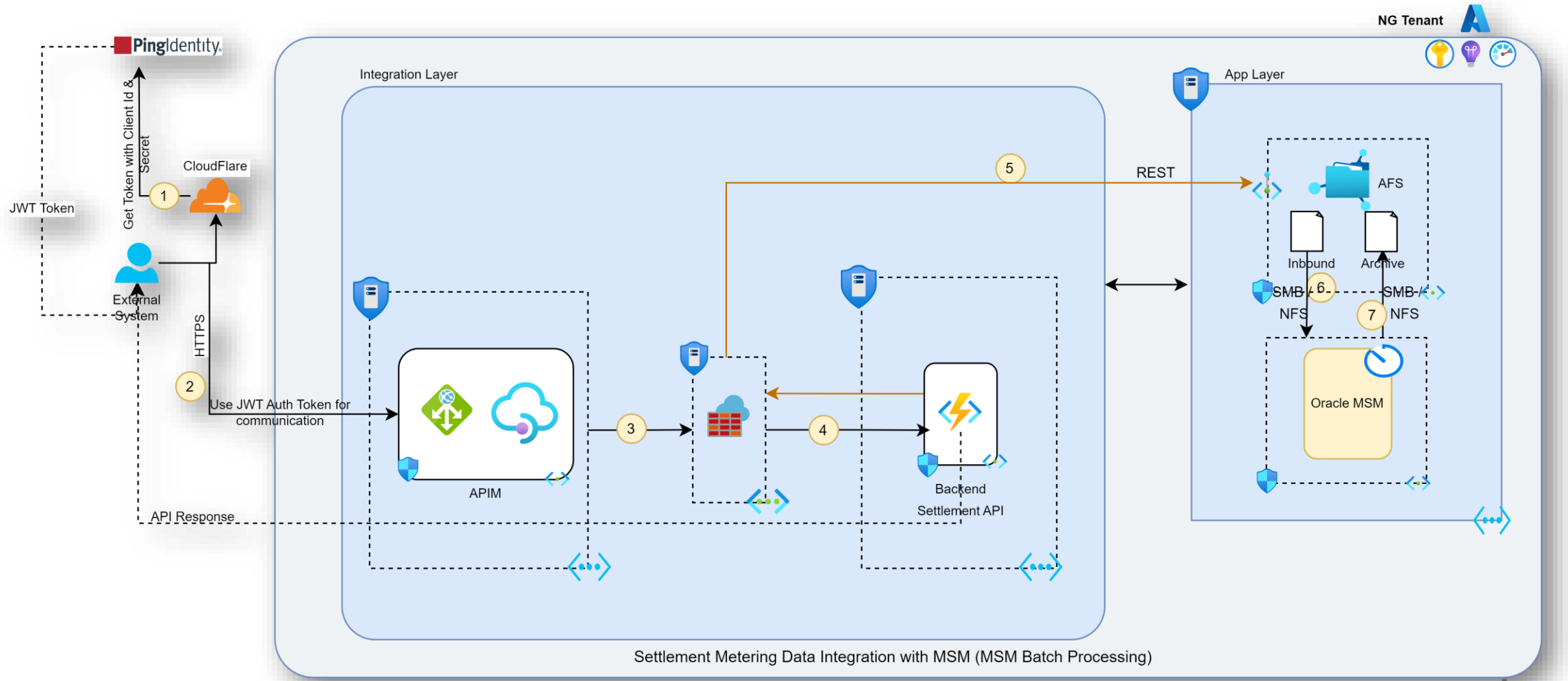

Performance Metering API details

BM and NBM Providers need to set up an API Client application to be able to send requests to Settlement APIs. Your Contract Manger can request CIAM client ID and secret for new providers who are not already registered to the EAC platform.

As tested by NESO

- NESO has used 'Postman' client for internal testing.
- It is easy to set up and user-friendly.
- NESO team can demonstrate and support the set-up of 'Postman' client for Service Providers.
- Please refer to our guidance document for step-wise process that should followed during testing.

Other options

- Service providers are free to use any other API Client application (example –SOAP UI, or Insomnia)
- Service providers can also use custom code or command-line HTTP tools like cURL.

Contact Details: Commercial.operation@neso.energy

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Supporting Documentation

All documents accessible on the Slow Reserve webpage under 'IT Integrations'

Single Market Platform (SMP)

- SMP Webpage & Guidance Information

OBP

- Business Logic Document
- WSDL Files
- Web Spec

Performance Metering

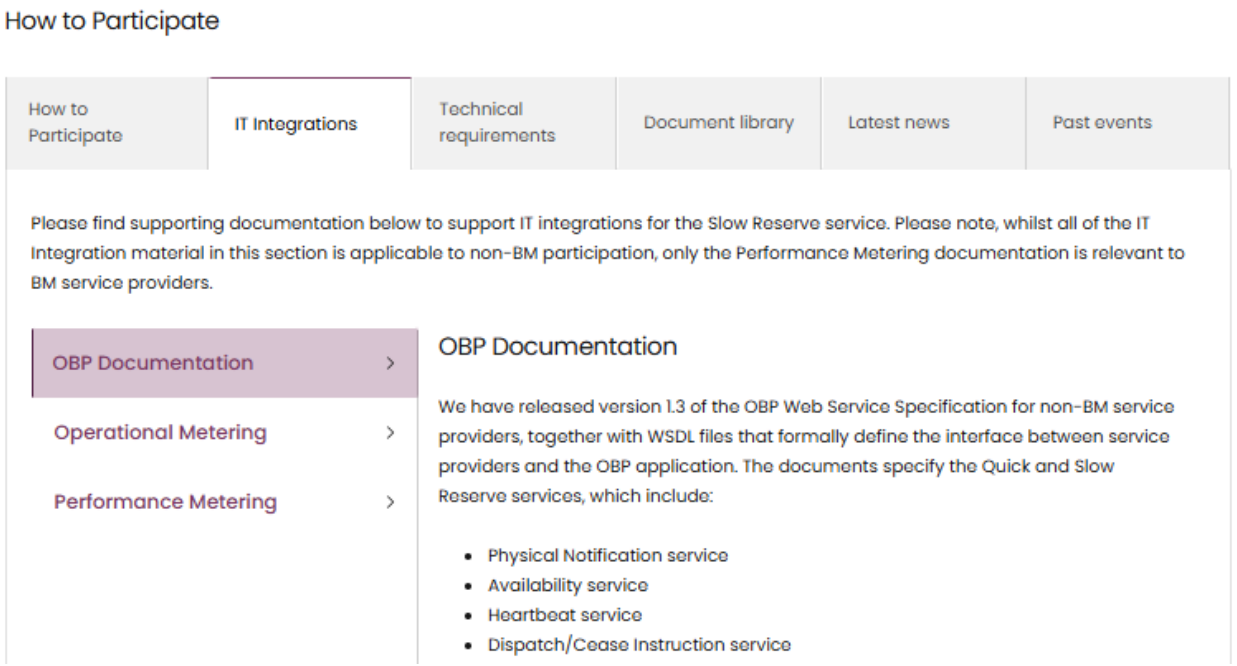
- Performance Metering Data Specification

Operational Metering

- Non-BM Ops Metering Overview
- Non-BM Ops Metering Architecture

EAC

- Auction Explainer / EAC Webpage



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BM and non-BM Slow Reserve Requirements

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Performance Metering Testing	STAR	✓	✓
Balancing System Testing	OBP	✗	✓
Operational Metering Testing	iHost	✗	✓
EAC Access	EAC	✓	✓

Q&A

Thanks for attending

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