

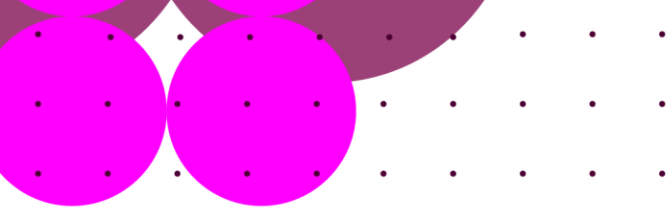
MW Dispatch System Set up for Service Provider_v3.0

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DOCUMENT CONTROL

Change History

VERSION	DATE	CHANGES
V1.0	29/09/2023	Business Logic for MW Dispatch Services for UKPN Business Logic for MW Dispatch Services for NGED
V2.0	29/10/2024	MW Dispatch Business Logic_UKPN V2.0 (Updated section 3.3 for Unavailability with additional validation error codes AS_Error35, AS_Error36, AS_Error37) MW Dispatch Business Logic_NGED V2.0 (Updated section 3.3 for NGED Unavailability via webservice)
V3.0	13/03/2026	<p>Document for OBP Integration only. ASDP integration remains on v2.0 (above)</p> <p>Document has been updated in line with change over to OBP. These changes include:</p> <ul style="list-style-type: none"> • Added section 1.2 to outline the changes for service providers moving from ASDP to OBP • Added clarification in 3.3 on the endpoint in NESO and routing to 3 different systems within NESO • Added distinction of the validation rules happening within different NESO systems in 3.3 • In 3.4 added clarification of the Dispatch/Cease Outbound Service and Confirmation Service and how they are linked • Additional attribute ScheduleDateTime in instruction request (Section 3.4) • Different instruction IDs for Dispatch and Cease (Section 3.4) • OBP will no longer retry a rejected/ignored cease instruction (Section 3.4.2) • Service Type change (RTM/Heartbeat), • Updated error codes (RTM/Heartbeat NACK) • New error code for service provider unit ownership (Section 3.1) • Added Section 3.9 on DER metering

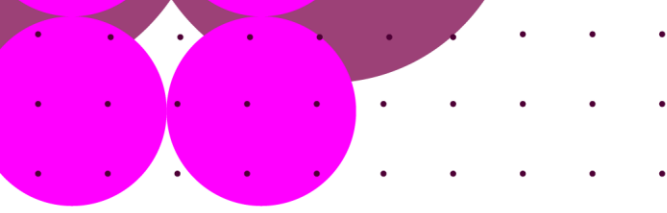


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Contents

1. Introduction.....	6
1.1. Scope.....	6
1.2. Changes for Existing Providers on ASDP.....	6
2. Initial System Set-up Business Rules.....	8
3. Web Services Business Rules and Exceptions.....	8
3.1. General business rules and exceptions.....	8
3.2. Web Service Versioning.....	9
3.3. Unavailability Service.....	9
3.4. Dispatch/Cease Services.....	13
3.4.1 Dispatch/Cease Outbound Service (NESO to Service Provider).....	14
3.4.2 Dispatch/ Cease Confirmation Service (Service Provider to NESO).....	16
3.5. Realtime Metering Service (Heartbeat).....	18
3.6. Realtime Metering Negative Acknowledgement Service:.....	20
3.7. Realtime Availability Service:.....	20
3.8. Potential Dispatch Order Service (For UKPN):.....	21
3.9. DER Metering:.....	23
4. Security rules and exceptions.....	23
5. Appendix.....	23



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1. Introduction

The Open Balancing Platform (OBP) has an objective to migrate the MW Dispatch service from PAS (Platform Ancillary Services) application.

The PAS (Platform Ancillary Services) project has an objective to replace and enhance systems across the Ancillary Service lifecycle. Starting with a flexible dispatch platform, capable of sending and receiving data, such as provider availability submissions and dispatch notifications. This document will focus on the addition of **Non-BM MW Dispatch Services**. For the Service Provider to communicate with NESO they are required to develop the appropriate web services as per the web service specifications V4.

This document explains the business rules for all Service Providers need to implement, including the initial set up of the system and the exceptions rules for the web services.

1.1. Scope

This document applies to Non-BM providers for MW Dispatch services only and covers the business rules and exceptions which are to be implemented by MW Dispatch Service Providers.

1.2. Changes for Existing Providers on ASDP

As part of the implementation of OBP, existing MW Dispatch providers and units integrated with the Ancillary Service Dispatch Platform (ASDP), also known as Platform for Ancillary Services (PAS), will need transition to OBP.

Whilst the drive is to minimise impacts to existing providers, there has been some changes necessitated as part of the new OBP solution to realise the full benefits of a flexible dispatch platform. The changes are summarised in the table below.

Change	Details	Applicable Messages
Domain Name Change	Webservice schema URL domain name modified to reflect new NESO organisation	All Message Types
Ignore Service Type	Service Type is optional/ignored for some unit level messages	RTM/RTM NACK

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Change	Details	Applicable Messages
Unit Error Codes	For unit level messages, error codes used in ASDP will be replaced by error codes used in OBP for NBM unit messages. All other MW Dispatch service specific error codes will remain unchanged	RTM
PState	PState is optional for RTM service when message is used solely for monitoring heartbeat.	RTM
Validation for Service Provider Unit ownership	If a unit submission is received from a DNO who is not linked to the unit in SMP, NESO will reject that submission.	All Message Types
ScheduleDateTime	Additional attribute ScheduleDateTime in instruction request	Dispatch/Cease Instruction
Different DUI for Dispatch and Cease	Different Instruction IDs will be used for Dispatch and Cease Instructions for the same unit	Dispatch/Cease Instruction
No Cease Retry from NESO when cease is rejected	<p>If NESO receives a REJECTED or ERROR response, then the cease instruction will be classified by NESO as REJECTED. NESO will not try to send the cease instruction again. DNO is responsible for resending this to the DER at from DNO side.</p> <p>Please note the instruction's MWh Volume Time is calculated as the time between the acceptance of a dispatch instruction and issue of a cease instruction (CeaseIssueTime) regardless of if the cease instruction has been classified as REJECTED.</p>	Cease Instruction
ServiceType in unit-level messages	<p>Consumers are expected to use ServiceType: RDP.</p> <p>ServiceType RDP_NEGATIVE is deprecated but still valid.</p>	All relevant message types

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2. Initial System Set-up Business Rules

Once a Unit has been successful in pre-qualification/registration, OBP will receive the Units registration data (including NESO assigned Unit ID) from internal systems. Each of the web service URLs will be tagged against a Unit ID (for the purpose of this document, the Unit ID is the unique ID as per the framework agreement).

The following data items are received from the Contract Files for MW Dispatch Service:

Data Item	Description
Unit ID	Unit ID as per the framework agreement
Contract Start Date	Start date of contract as per framework agreement
Contract End Date	End date of contract as per framework agreement
Ramp Up Rate	MW / Minute
Ramp Down Rate	MW / Minute
Allocated MW	Allocated MW per unit

The Unit ID will be provided as agreed between NESO and the Service Provider. This will act as an identifier for which unit or aggregation of units the messages will pertain to. All prequalified/registered DER units mapped to RDP Service Type in the webservices.

3. Web Services Business Rules and Exceptions

3.1. General business rules and exceptions

This section provides General Business Rules and Exceptions followed for MW Dispatch Service-

- In all the web services and for all the data tags, the data should be trimmed and should be without any **spaces** before or after the data. For example, NESO expects timestamps as "2021-07-16T19:20:00Z", not "2021-07-16T19:20:00 Z" or "2021-07-16 T 19:20:00Z".
- The web service will not be accepted if Service Providers send any **blank tags**. This will mean the 'NULL' value will be updated in the OBP system. This is applicable for all the optional fields. If the field is optional, NESO would expect Service Provider to ignore that tag completely from the xml unless mentioned in this document for a particular web service.

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- For dispatch/cease instruction web service, NESO will wait for 60 seconds to get synchronous response back from Service Providers before the system times out.
- Real Time Availability of a unit should be sent by Service Provider to NESO to update the service availability for a unit.
- NESO has made a provision for its systems and Service Providers' systems to be out of sync only by 1 minute. This is reflected in all the DateTimeStamp validations for all web services.
- The TimeStamp specified in request and response for the Services should always be in UTC.
- The operational day for MW Dispatch service is defined to be between 05:00am local time of given Calendar Day to 05:00 am local time of the next Calendar Day.
- The NESO and DER Service Provider communication for the mentioned services request and response would always be via DNO.
- If a unit submission is received from a DNO who is not linked to the unit in SMP, NESO will reject that submission.

3.2. Web Service Versioning

We have introduced web service version to help with traceability for onboarding new Ancillary Services. Current webservice version for MW Dispatch service is Version 4, any changes will be communicated by updating the web specification and business logic document appropriately. Providers will be notified by email of any new documentation.

3.3. Unavailability Service

This section provides business logic for the Unavailability Service to submit unavailability of DER unit. Window unavailability can be submitted only after a unit is successfully registered with NESO.

This web service is used for declaration of unavailable time for DER unit within an operational day. Service Providers are expected to send unavailability request JSON for single operational day of a unit (05:00 – 05:00 local time) and should not include the period crossing over operational days.

Day ahead unavailability must be sent for one operational day. For example, if DER is unavailable for two consecutive days, the result should be two separate requests, one for each day.

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The unavailability slot should be rounded off to the nearest 30 mins, i.e. the unavailability period will always be at minimum of 30 mins resolution and should not include seconds in request timestamp.

Unit will be considered as dispatchable or non-dispatchable considering the Real Time Availability flag (PState) received via Realtime Availability API and the window unavailability flag via Unavailability Service. If PState flag is OFF or Unit is in its unavailability period, it will be considered as non-dispatchable.

Unavailability service can be used once a day (Day ahead) to make units unavailable, if units need to be made unavailable outside of this API availability, then providers can send RealTimeAvailability flag (PState) as OFF.

Messages sent using this service are sent to one endpoint in NESO and routed to 3 different systems within NESO. Messages intended for OBP follow the OBP Web Services Specification and messages intended for NAP or S&BB are same differences in the "Interface" parameter as follows:

- NAP system
 - 3WA unavailability reports will have the Interface name "NAPUnavail3WA"
 - DA unavailability reports will have the Interface name "NAPUnavailDA"
- S&BB system and OBP
 - DA unavailability reports will have the Interface name "UNAVAIL-DATA"

Unavailability reports are sent by are routed to all systems as follows

- For OBP:
 - DA (day ahead) reports sent daily by 4pm
- For NAP:
 - DA (day ahead) reports sent daily by 11am
 - 3WA (3 week ahead), sent weekly on Thursdays by 5pm
- For S&BB:
 - DA (day ahead) reports sent daily by 4pm

NESO does not expect Service Provider to send overlapping and duplicate unavailable service windows.

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The following fields are required to be populated by Service Providers in the request payload during unavailability declaration – **Interface (UNAVAIL-DATA), ServiceType, UnitID, StartDateTime, EndDateTime and DateTimeStamp.**

Service provider can send multiple units unavailability duration within single request payload.

The Unavailability StartDateTime & EndDateTime will need to be specified within the UnAvailabilityWindow Array in the request.

The StartDateTime & EndDateTime should always be within the next Operational Day Timeframe (i.e. between 5:00 am D+1 and 5:00 am D+2) and should always be rounded off to the nearest 30 minute resolution.

No other details should be provided, refer to the sample payloads in the Appendix section_IN from the Web Service Specification v4 document.

Time specified in unavailability request should always be in UTC.

Day-ahead unavailability settings are final and cannot be modified. Once a DER unit is declared unavailable for a specified time window, real-time submissions cannot revert the unit to an available status during that period.

NESO External Validations rules

These validations **will be** communicated to the service provider.

XSD/JSON Rejections from NESO to Service Provider

The entire messages will be rejected for the following validations.

The following are different possibilities of XSD/JSON rejections after appropriate XSD/JSON validations:

1. If Interface is missing/blank/other than “UNAVAIL-DATA” or “NAPUnavail3WA” or “NAPUnavailDA” in request payload, NESO rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back with appropriate message as “Invalid Interface”.
2. If ServiceType is missing/blank/other than RDP in request payload, NESO rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back with appropriate message as “Invalid ServiceType”.
Note: usage of RDP_NEGATIVE is deprecated but still valid. Consumers are expected to use RDP.

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3. If UnitID is missing/blank in the request payload, NESO rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back. The response will also provide the details of the error. – “Invalid UnitID”
4. If StartDateTime is missing/blank in the request payload, NESO rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back. The response will also provide the details of the error. – “Invalid StartDateTime”
5. If EndDateTime is missing in the request payload, NESO rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back. The response will also provide the details of the error. – “Invalid EndDateTime”
6. If DateTimeStamp is missing/blank in the request payload, NESO rejects the same via XSD validation and Service Provider should be getting a 400 bad request response back. The response will also provide the details of the error. “Invalid DateTimeStamp”.

Data Validations

In the event when unavailability is failed due to below validation rules by NESO, Service Provider would be communicated **via email** for the further analysis.

The messages can be rejected at different levels:

- Unit level rejections: Reject the invalid unit entry only. Continue processing all other valid units submitted in the same request.
- Window level rejection: A window is an individual unavailability period associated with a unit. Reject only the specific invalid unavailability windows for a unit.
Still process: The unit itself, and any other valid unavailability windows for that same unit.

The following are the validation rules:

1. Service Providers are permitted to submit Day Ahead unavailability for a given DER Unit only once per operational day. Any subsequent submission for the same unit and day will be rejected at the unit level.
2. Unavailability requests must relate exclusively to one operational day, defined as 05:00 to 05:00 local time. Submissions that include time periods extending across multiple operational days will be rejected at the unit level.
3. Service Providers may only submit unavailability for the next operational day. Requests pertaining to any other operational day will be rejected at the unit level.
4. Each unavailability window must begin and end on times rounded to the nearest 30-minute interval. Windows that do not conform to this requirement will be rejected at

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the window level, while all other valid windows for the unit will remain eligible for processing.

5. Unavailability windows must not duplicate/overlap other windows submitted for the same unit. Any window that violates this requirement will be rejected at the window level, with remaining valid windows continuing to be processed.
6. A submission message must contain no more than one entry for each Unit ID. Where duplicate Unit IDs are detected within the same file, the associated unavailability for that unit will be rejected at the unit level.
7. If an unspecified or unclassified error occurs during validation, the affected unavailability submission will be rejected at the unit level.

OBP Internal Validations:

The following validations are internal to OBP and **will not** be communicated to the Service Providers.

The messages can be rejected at different levels:

- Unit level rejections: Reject the invalid unit entry only. Continue processing all other valid units submitted in the same request.
 - Window level rejection: A window is an individual unavailability period associated with a unit. Reject only the specific invalid unavailability windows for a unit.
Still process: The unit itself, and any other valid unavailability windows for that same unit.
1. If UnitID value differs to what has been set up in SMP OBP application, OBP will reject the unavailability at a unit level.
 2. If StartDateTime or EndDateTime is in the past, OBP will reject the unavailability window.

3.4. Dispatch/Cease Services

The instruction process comprises two linked services:

- Dispatch/Cease Outbound Service
- Dispatch/Cease Confirmation Service

These services are used by NESO to issue dispatch and cease instructions to Service Providers and to receive their responses.

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The **boundary of the Dispatch/Cease Outbound Service** is limited to:

- NESO sending a Dispatch or Cease instruction to the Service Provider.
- The Service Provider returning a technical acknowledgement only, indicated by a synchronous HTTP 200 (OK) response.

Service Providers are responsible for Accepting or Rejecting Dispatch and Cease instructions exclusively via the **Dispatch/Cease Confirmation Service**.

3.4.1 Dispatch/Cease Outbound Service (NESO to Service Provider)

This section provides the general business logic for the Dispatch/Cease Outbound Service.

A unit can be dispatched/ceased using this service.

- A unique DUI is used for Dispatch and Cease instructions.
- Dispatch instruction will have 'START' and cease instruction will have 'STOP' in the Instruction tag.
- Instructions are retried until a technical acknowledgement (successful API response) is received from the Service Provider
- ScheduleDateTime is the new parameter and will be computed as instruction issue time from NESO plus Dispatch or Cease SLA for the unit respectively. This parameter represents the time window within which the Service Provider must respond to the instruction. The Service Provider may accept or reject the instruction **at any point between the issue time and the ScheduleDateTime**. This parameter defines the response window within which the Service Provider must respond using the Confirmation Service.

Dispatch:

When dispatch is accepted by Service Provider, the unit should curtail down to 0 MW and Service Provider must send updated real time meter reading to NESO. This will be used for verification in settlements process.

VolumeRequested tag is mandatory for dispatch instruction with 0 MW value.

If NESO does not receive an Acknowledgement 200 Ok synchronous response past 60 seconds from the dispatch instruction, it will be considered that Service Provider has not technically acknowledged the instruction.

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Cease:

When a cease instruction is sent out by NESO, the service provider is expected to stop the instruction and bring back the curtailed DER. Provider must send updated real time meter reading to NESO, this will be used to monitor the DER output.

NESO will issue a cease instruction only after the dispatch instruction has been accepted. Once the cease instruction is issued, the unit will become available for dispatch again.

If NESO does not receive an acknowledgement 200 Ok synchronous response past 60 seconds from the cease instruction, it will be assumed that Service Provider has not acknowledged the instruction.

XSD Rejections from Service Provider:

1. If **ServiceType is invalid or missing value**, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
2. If **Unit ID is missing**, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
3. If **DUI is missing**, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
4. If **Instruction is different to that of XSD or missing**, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
5. If **ScheduleDateTime** is missing, NESO expects Service Provider to throw 500 internal Server Error as XSD validation failure.
6. If **DateTimeStamp is missing** in the xml, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.

Error Code Responses from Service Provider:

1. **Unit ID is not valid**, NESO expects Service Provider to send Dispatch / Cease confirmation response with ERROR in the ResponseCode with the associated Errorcode 'DCS_Error1'.
2. If **VolumeRequested is different to 0 MW**, NESO expects Service Provide to send Dispatch confirmation response with ERROR in the ResponseCode with the associated Errorcode 'DCS_Error2'.

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3. If the **absolute difference** between NESO DateTimeStamp and Service Provider current system time (in UTC) **is greater than 1 min**, NESO expects Service Provider to send Dispatch / Cease confirmation response with ERROR in the ResponseCode with the associated Errorcode 'DCS_Error3'.
4. If **Unit ID is not matching** to that of ServiceType, NESO expects Service Provider to send Dispatch / Cease confirmation rejection with the Errorcode 'DCS_Error4'.
5. If there is an **unspecified error in the Dispatch or Cease message**, NESO expects DER to send Dispatch / Cease confirmation response with ERROR in the ResponseCode with the associated Errorcode 'DCS_Error99'.

3.4.2 Dispatch/ Cease Confirmation Service (Service Provider to NESO)

This section provides business logic for the Dispatch/Cease Confirmation Service.

Dispatch/Cease instruction confirmation is sent by Service Provider using Dispatch/Cease Confirmation Service.

Dispatch:

In the event when NESO does not receive synchronous 200 Ok but asynchronous confirmation back for a dispatch instruction from Service Provider, unit will be considered as ACCEPTED/REJECTED by NESO based on the confirmation response received.

Similarly, if NESO does not receive asynchronous confirmation after receiving a 200 Ok response to the dispatch instruction that has been sent by NESO past defined **SLA 2 minutes*** from the dispatch instruction, it will be considered as dispatch PROXY_REJECTED by NESO.

In case NESO receives REJECTED or ERROR or no confirmation from Service Provider for Dispatch instruction **within defined SLA**, Service Provider to ensure those units are marked as unavailable for future dispatches via Real time availability service (PState flag) sent to NESO. Those units will not be available for future dispatches by NESO.

Once the issue is resolved and communication link is re-established, Service Provider to make the units as Available via Real time availability service (PState flag) sent to NESO, so the units will be available for future dispatches.

Note- If for some reason, Service Provider fails to update the real time availability flag, then in that case NESO will consider the latest PState/RT Availability flag received.

Note:

1. For some providers, the dispatch SLA may be different. (E.g. 12 minutes for UKPN).

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2. In case if the instruction is rejected by UKPN, NESO expects UKPN to send ResponseCode as REJECTED and ErrorCode as "UKPN_Rejected" in Instruction Confirmation Response.

Cease:

In the event when NESO does not receive the synchronous 200 Ok but asynchronous confirmation back for a cease instruction from Service Provider, unit will be considered as ACCEPTED/REJECTED by NESO based on the confirmation response received.

If NESO receives a REJECTED or ERROR response, then the cease instruction will be classified by NESO as REJECTED. Please note the instruction's MWh Volume Time is calculated as the time between the **acceptance of a dispatch instruction** and **issue of a cease instruction** (CeaseIssueTime) regardless of if the cease instruction has been classified as REJECTED.

The service provider must ensure that any units that failed to cease are marked as **Unavailable** via the **Real-Time Availability** (or **PState** flag) sent to NESO. Once connection is restored and communication link is established, Service Provider to update Real Time availability service (or PState flag) as ON.

XSD Rejections from NESO:

1. If **ServiceType is missing in the xml**, NESO Middleware rejects the same via XSD validation Service Provider should be getting a 500 Internal Server Error response back with appropriate error message.
2. If **Unit ID is missing in the xml**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
3. If **DUI is missing in the xml**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
4. If **Instruction is missing in the xml**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
5. If **ResponseCode is missing** or is not as per the enumeration list as per web service specification, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
6. If **DateTimeStamp is missing in the xml**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.

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Other Rejections from NESO:

1. If Unit ID is not matching to the dispatch/cease xml payload NESO has sent, NESO will reject the confirmation with a 400 Bad Request with a message '*Invalid UnitID*' in the response.
2. If Instruction (START or STOP) is not matching to the dispatch/cease xml payload NESO has sent, NESO will reject the confirmation with a 400 Bad Request with a message "*Unexpected 'STOP' instruction type received*" when START is sent in dispatch/cease instruction or "*Unexpected 'START' instruction type received*" message when STOP is sent in dispatch/cease instruction'.
3. If ErrorCode is different to that of the list mentioned in the above section, NESO will reject the confirmation with a 400 Bad Request with a message '*Invalid ErrorCode*' in the response.
4. If the absolute difference between Service Provider DateTimeStamp and NESO's current system time (in UTC) is greater than 1 min, NESO will reject the confirmation with a 400 Bad Request with a message '*Invalid DateTimeStamp*' in the response.
5. If **DUI is not matching** to the dispatch/cease xml payload NESO has sent, NESO will reject the confirmation with a 400 Bad Request with a message '*Invalid DUI*' in the response.
6. If **Dispatch/Cease confirmation is received after defined SLA**, NESO will reject the confirmation with a 400 Bad Request with a message '*SLA breach*' in the response.

3.5. Realtime Metering Service (Heartbeat)

This section provides business logic for Realtime Metering Service (Heartbeat).

This service will be used by NESO to receive the real time status of the unit, as the unit's heartbeat from the Service Providers.

Note: Some providers (e.g. NGED) can use this service to declare the Pstate of the unit in which case this service will be used to receive the Heartbeat and the Real time Availability of the unit.

The only required fields for all MW Dispatch units are – **UnitID, DateTimeStamp**, other fields will be ignored except **Pstate** which is optional.

NESO expects the heartbeat to be at least every 5 minutes.

Note: Some providers (E.g. NGED) may send the **PState** as a part of this Realtime Metering Service.

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PState flag decides the real time unavailability and availability of a unit. If PState flag is received as OFF by NESO from Service Provider, NESO will consider those units as unavailable, and they will not be considered for dispatch. If PState flag is ON, unit would be considered as available to dispatch.

NESO expects the Service Provider to send the PState (RT Flag) as ON/OFF accordingly with every RTM message.

As RTM along with PState is used by NESO to consider the unit to be available to dispatch, until the point NESO receives a valid RTM back and PState as ON, the unit will not be considered to perform dispatch actions.

Note:

1. If NESO does not receive any RTM in the last 10 mins, RTM NACK will be sent with an error code 'OHB_Error1'.
2. Pstate will be ignored by NESO during the Unavailability window/s declared in the Day Ahead Unavailability files.

The other exceptions are handled as follows.

XSD Rejections:

1. If **ServiceType is invalid** or missing value, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
2. If **UnitID is missing**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
3. If **DateTimeOfMeterReading is missing**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.
4. If **DateTimeStamp is missing**, NESO Middleware rejects the same via XSD validation and Service Provider should be getting a 500 Internal Server Error response back.

Other Rejections:

1. If UnitID does not exist in OBP application, NESO will reject the RTM with a 400 bad request including a message '*Invalid UnitID*' in the response.

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2. If the **absolute time difference** between Service Provider's DateTimeStamp and NESO 's current system time (in UTC) is **greater than 1 min**, NESO will reject the RTM with 400 bad request with a message '*Invalid DateTimeStamp*' in the response.

3.6. Realtime Metering Negative Acknowledgement Service:

A Realtime Metering Negative Acknowledgement (NACK) is a message to communicate that NESO has not received RTM for the last 10 minutes or there is some issue with the Realtime metering that has been sent and until remedied with correct RTM submissions the contract will be unavailable to dispatch.

XSD Rejections from Service Providers:

1. If UnitID is missing, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
2. If UnitID is not valid, NESO expects Service Provider to send a non 200 http status code back with a message '*Invalid UnitID*'
3. If StartDateTime or EndDateTime is missing, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
4. If ErrorCode is not form the list as mentioned in the previous section, NESO expects Service Provider to send a non 200 http status code back with a message '*Invalid ErrorCode*'.
5. If DateTimeStamp is missing, NESO expects Service Provider to throw 500 Internal Server Error as XSD validation failure.
6. If the absolute difference between NESO DateTimeStamp and Service Provider's current system time (in UTC) is greater than 1 min, NESO expects Service Provider to send a non 200 http status code back with a message '*Invalid DateTimeStamp*'.

3.7. Realtime Availability Service:

This section provides business logic for Realtime Availability Service for UKPN.

NESO expects Service Provider to send updated Unit's Realtime availability (RTAStatus flag) status to NESO so that the unit can be made dispatchable or non-dispatchable accordingly. The Realtime availability (RTAStatus) flag should be sent as ON/OFF only when there is change in unit's real time availability.

The only required fields for all MW Dispatch units are – **ServiceType, UnitID, RTAStatus and DateTimeStamp**

Note:

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1. RTA Status/Pstate will be ignored by NESO during the Unavailability window/s declared in the Day Ahead Unavailability files.

The other exceptions are handled as follows.

XSD/JSON Rejections:

1. If ServiceType is missing value or null or other than RDP, NESO Middleware rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request error response back with appropriate error message "Invalid ServiceType
Note: usage of RDP_NEGATIVE is deprecated but still valid. Consumers are expected to use RDP.
2. If UnitID is missing or null, NESO Middleware rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request error response back with appropriate message as "Missing Unitid".
3. If RTAstatus is missing or other than ON/OFF, NESO Middleware rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back with appropriate error message with appropriate message as "Invalid RTAstatus".
4. If DateTimeStamp is missing or null, NESO Middleware rejects the same via XSD/JSON validation and Service Provider should be getting a 400 bad request response back with appropriate error message with appropriate message as "Invalid DateTimeStamp".

Other Rejections:

1. If UnitID is not mapped to the appropriate ServiceType selected or UnitID value differs to what has been set up in OBP application, NESO will reject the Realtime availability with error message "Invalid UnitID"
2. If the absolute time difference between Service Provider's DateTimeStamp and NESO's current system time (in UTC) is greater than 1 min, NESO will reject the Realtime availability with error in the response.

3.8. Potential Dispatch Order Service (For UKPN):

A Potential Dispatch Order is a service to send Day ahead dispatch merit order for available UKPN units. Every day at 16:45 BST hours DA dispatch merit order of UKPN DER units would be sent to UKPN via REST API as per web specification section 3.11.

In case of any exception (any system is down or unavailable) if NESO fails to send the data, there will be a provision to resend this data once the systems are up and running.

Public

In the event when DA DER price data is not received due to any technical issues at NESO end before scheduled time 16:45 BST at OBP, the DA Dispatch merit order data to UKPN could be blank. NESO will be re-posting the updated data upon receiving the DA DER price details once the issue is resolved.

DER units for which DA DER Price is not received due to any data validation, same DER unit will not be considered to send in Dispatch merit order data.

NESO would be sending below details as a part of the Dispatch merit order data:

InterfaceName as "UKPN-DISP-ORDER"; GSPName, ESOMWD_DERID, PricedOrderDispatch, MaxRegisteredCapacity and DateTimeStamp.

This is synchronous service and hence NESO expects to receive 200 Ok synchronously from UKPN.

XSD/JSON Rejections from Service Providers:

1. If InterfaceName is missing or blank or other than UKPN-DISP-ORDER, NESO expects Service Provider to throw 400 bad request error Error as JSON validation failure with message a "InterfaceName is missing/blank/invalid."
2. If GSPName is missing or blank, NESO expects Service Provider to throw 400 bad request error as JSON validation failure with message a "GSPName is missing/blank."
3. If ESOMWD_DERID is missing or blank, NESO expects Service Provider to throw 400 bad request error as JSON validation failure with message as "ESOMWD_DERID is missing/blank."
4. If MaxRegisteredCapacity is missing or null, NESO expects Service Provider to throw 400 bad request error as JSON validation failure with message as "MaxRegisteredCapacity is missing/blank".
5. If DateTimeStamp is missing or null, NESO expects Service Provider to throw 400 bad request error as JSON validation failure with message as "DateTimeStamp is missing/blank".
6. If ESOMWD_DERID is not valid, NESO expects Service Provider to send a 400 bad request back with a message 'Invalid UnitID' (if multiple units, it should be comma separated in response)
7. If GSPName is not valid, NESO expects Service Provider to send a 400 bad request back with a message 'Invalid GSPName' (if multiple GSPNames, it should be comma separated in response).

In the event when NESO receives above errors, data would be resent upon analysing and resolving the issue (by manual process) between Service Provider and NESO.

Public

3.9.DER Metering:

Each DER must submit their metering to NESO.

NESO expects Service Provider to send updated meter reading to NESO every 10 seconds via ICCP so that the unit can be used for further operational purposes. Meter reading of the DER is used to dispatch the unit and for settlements of the instruction. Meter reads submitted should not be beyond unit’s Registered MW (Max Registered Capacity MW) provided during registration. If the unit does not provide metering details within 2 minutes, then NESO will mark the unit as non-dispatchable.

4. Security rules and exceptions

As per latest Web Service Specifications Version 4 NESO is expecting all the webservices to be authenticated with usernames and passwords. Each Service Provider will have one set of username and password pair i.e., if Service Provider has multiple contracts across any ancillary service types, NESO will provide a single pair of username and password across all Unit IDs. If Service Provider sends incorrect username and password or if there is a combination mismatch to the username password to that of Unit ID in the web services, NESO will send the appropriate error (will be only 500 error code when sending backend error exception and for XSD validation failure). It is expected for SPs to send the same to NESO.

Please refer section 4.2 – Security Messages from Web Specification V4 document for more details.

5. Appendix

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