

# Introduction to Virtual Lead Parties

Susan Mwape  
National Grid ESO  
15 January 2019



nationalgridESO



# Aim to cover the following:

## National Grid:

- What is wider access?
- What is a VLP?
- What can VLPs do and not do?
- How to become a VLP
- How to bid into BM and RR
- How will I be activated

## Ellexon:

- How to become a VLP
- How to register Secondary BMUs
- How to manage SBMUs
- Payment and settlement
- Reporting

# Wider Access to the Balancing Mechanism

**Wider access aims to make the Balancing Mechanism market more accessible to non-traditional providers and aggregators.**

**This will open new revenue streams and provide NGENSO with a greater range of options for managing operability challenges. Barriers to entry will be removed by:**

1. Improved route for submission of data at an aggregated level
2. Introducing the concept of a Virtual Lead Party (VLP) that will be able to register BMUs as small as 1MW
3. Enhancing interface between NGENSO and market participants so data submission is more efficient and cost-effective for smaller and aggregated units.

# Virtual Lead Party (VLP)

*A VLP facilitates participation in both the Balancing Mechanism and Project TERRE, with access through the same interface. There will however be some key differences involved in participating in each, one of which is that the BM is settled on a pay-as-bid basis whereas TERRE is a pay-as-clear auction format.*

VLP is a new type of Market Participant

VLPs will be able to create Secondary BMUs for either individual or aggregated units within a Grid Supply Point Group

Secondary BMUs are intended solely for the provision of Balancing services to the SO

Secondary BMUs will be able to participate in the BM, TERRE or both

VLPs are not a fully licensed supplier, and so are not responsible for TNUoS or BSUoS charges.

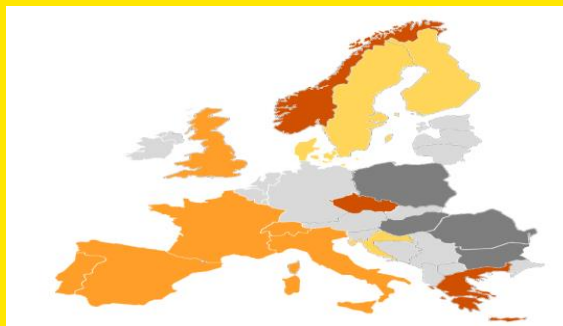
Suppliers remain the Balance Responsible party for the meters for each sub-unit

# Contract Interaction

- **BM Wider Access Roadmap - NG committed to reviewing contract interaction for new units entering the BM.**
- **Assets under an active BMU cannot participate in or be part of a Non-BM Framework Agreement.**
- **Participation in services of an asset registered to an active BMU must be via a BM Framework Agreement.**
- **NG have successfully progressed a FFR BM FA that enables these new units to participate and NGESO will continue to review other services aligned with our December 19 commitments.**

# National Grid

GB code requirements



Grahame Neale



# Virtual Lead Parties and Connection & Use of System Code

## VLP concept

Implemented in BSC (P344) and Grid Code (GC0097) whilst development underway to create VLPs in CUSC (CMP295)

## CMP295

- Under development by CMP295 workgroup
- Due for industry consultation shortly
- Encourage VLPs to join workgroup and respond to consultation

## Likely VLPs will need to accede to CUSC

- Exact form of CUSC accession and associated T&Cs to be confirmed
- Expected to be minimal CUSC obligations
- Planning to have these developed ahead of April 2019.

To join the workgroup please contact:

[cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com)

# Provider Obligations

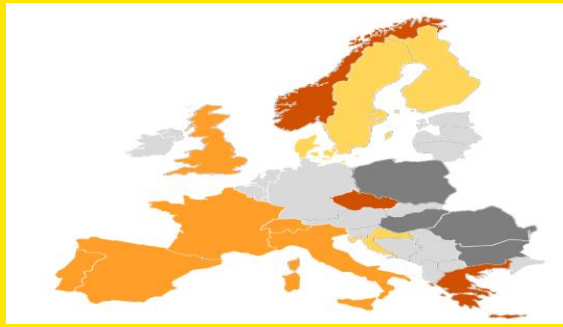
BMU type	Generation BMUs (Central Volume Allocation)	
Category	Transmission connected	Distribution connected
SO contract	Sign BCA contract	Sign BEGA Contract
Obligations	Contract sets out CUSC & Grid Code obligations	Contract sets out CUSC & Grid Code obligations
BMU activity status	Each registered unit an Active BMU	Each registered unit an Active BMU

BMU type	Supplier BMUs (Supplier Volume Allocation)	
Category	Base	Additional
SO contract	Sign Supplier Use of System agreement for CUSC	Sign Supplier Use of System agreement for CUSC
Obligations	Linked to Grid Code through Supplier licence	Linked to Grid Code through Supplier licence
BMU activity status	Non-active BMUs	Extra contractual and system changes required to create Active BMUs

BMU type	Virtual Lead Party BMUs (Supplier Volume Allocation)
Category	Create Secondary BMUs
SO contract	Sign new agreement (proposed by CMP295)
Obligations	Contract sets out CUSC & Grid Code obligations
BMU activity status	Each registered unit an active BMU

# National Grid

Pre Qualification Process –  
Customer Relationship  
Management (CRM)



Susan Mwape

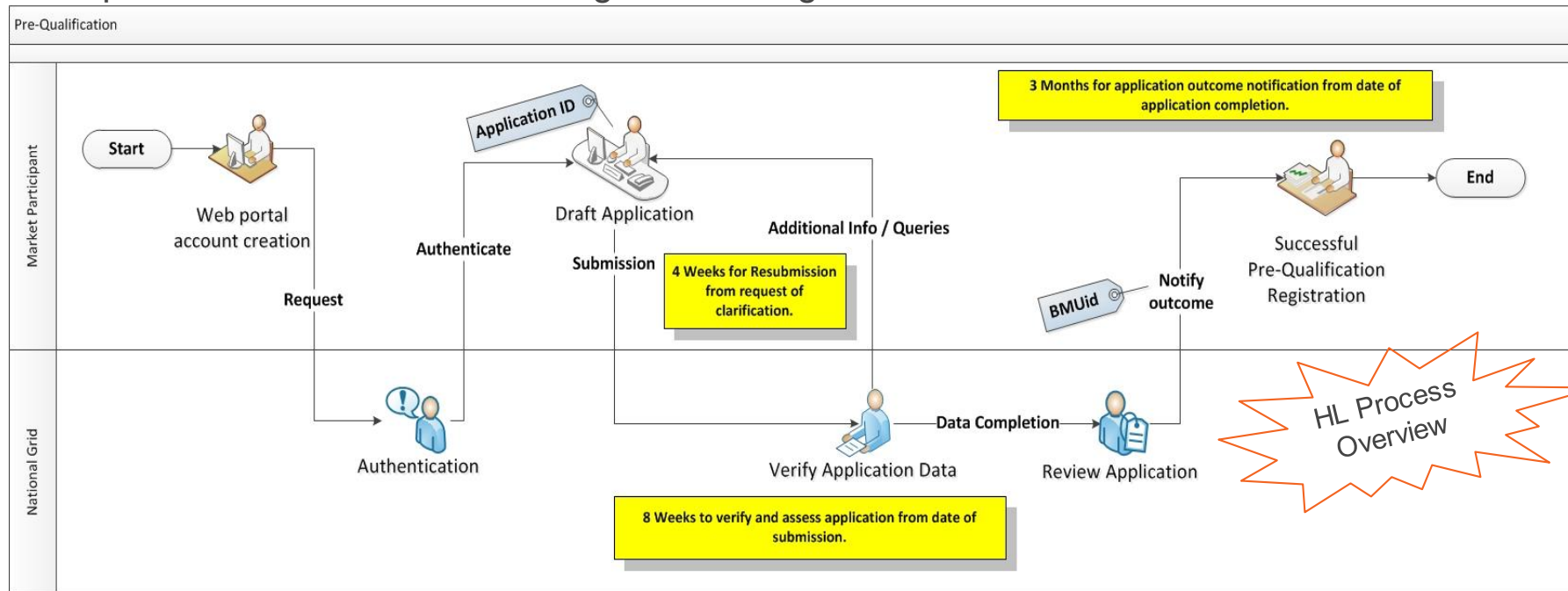


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# Pre-Qualification Process - Overview

Enables new and existing participants to apply for RR and wider access.

- Enable pre-qualification of primary BMUs for RR and secondary BMU's for RR/WA.
- Implemented and executed alongside existing National Grid ESO business activities.



# Online Experience - Register

Register

New  
Application

Unit details

Agree &  
Submit

Assessment

Approval

## Register

Contact Name

Phone

Email

Preferred Contact Method

Company Name (Legal Name)

National Grid Account Manager (optional)

Company Registration Number

Company Address (Registered Address)

☐ Yes, by creating an account I agree to the [Terms and Service](#)

☐

I'm not a robot



Register



# Online Experience - Application



New Application

Application 00008899

Withdraw

Proceed

**Status**

Edit

**Account**

Haarith Account

**Created Date**

22-Nov-2018

**Contact**

Haarith Terre

Application Assets


Add Aggregated Asset

Add Non Aggregated Asset

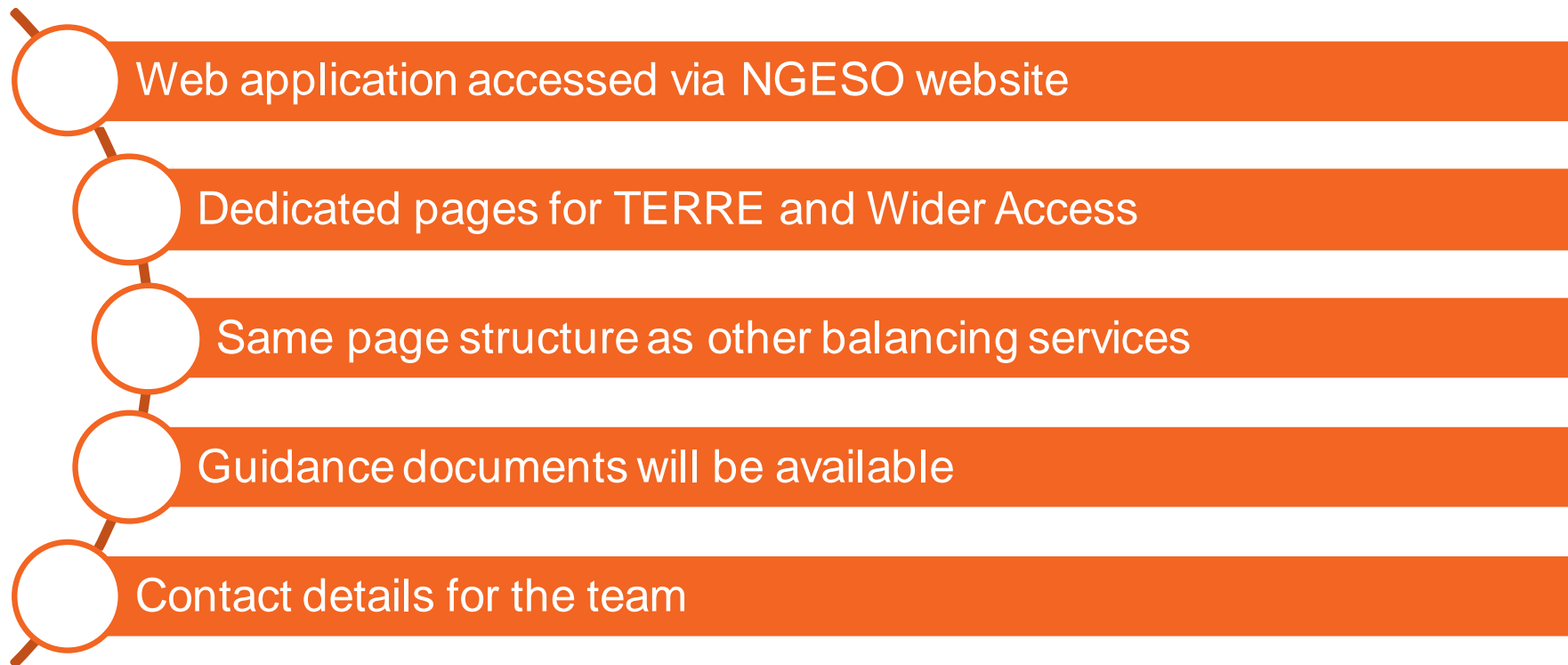
Existing Assets

<input type="checkbox"/>	ASSET NAME	TYPE	APPLICABLE MARKETS	GENERATION CAPACITY	DEMAND CAPACITY	
<input type="checkbox"/>	> Agg-3	Aggregated BMU	Replacement Reserve	11	0	▾
<input type="checkbox"/>	> Agg-2	Aggregated BMU	Replacement Reserve	0	5	▾
<input type="checkbox"/>	Factory	Non Aggregated BMU	Replacement Reserve	20		▾

# Online Service Features

- 
- Secure login – two factor authentication
  - Registered users – multiple users if required
  - Gradually build application – save and return – submit when ready
  - Pre-qualify existing and new units/sub-units
  - Email notification/alerts

# Online Experience - Access



# Next Steps

**“We continue to listen and respond to feedback from our customers and stakeholders. This will enable us to prioritise activities that will create most value for consumers this year, and in future”.**

- **Pre-qualification “go live” in February 2019.**
  - User guidance will be provided (published on NGESO website).
  - Technical and application support will be available
- **Further releases of new Salesforce functionality prior to December 2019.**
  - Aligned with business and regulatory requirements.

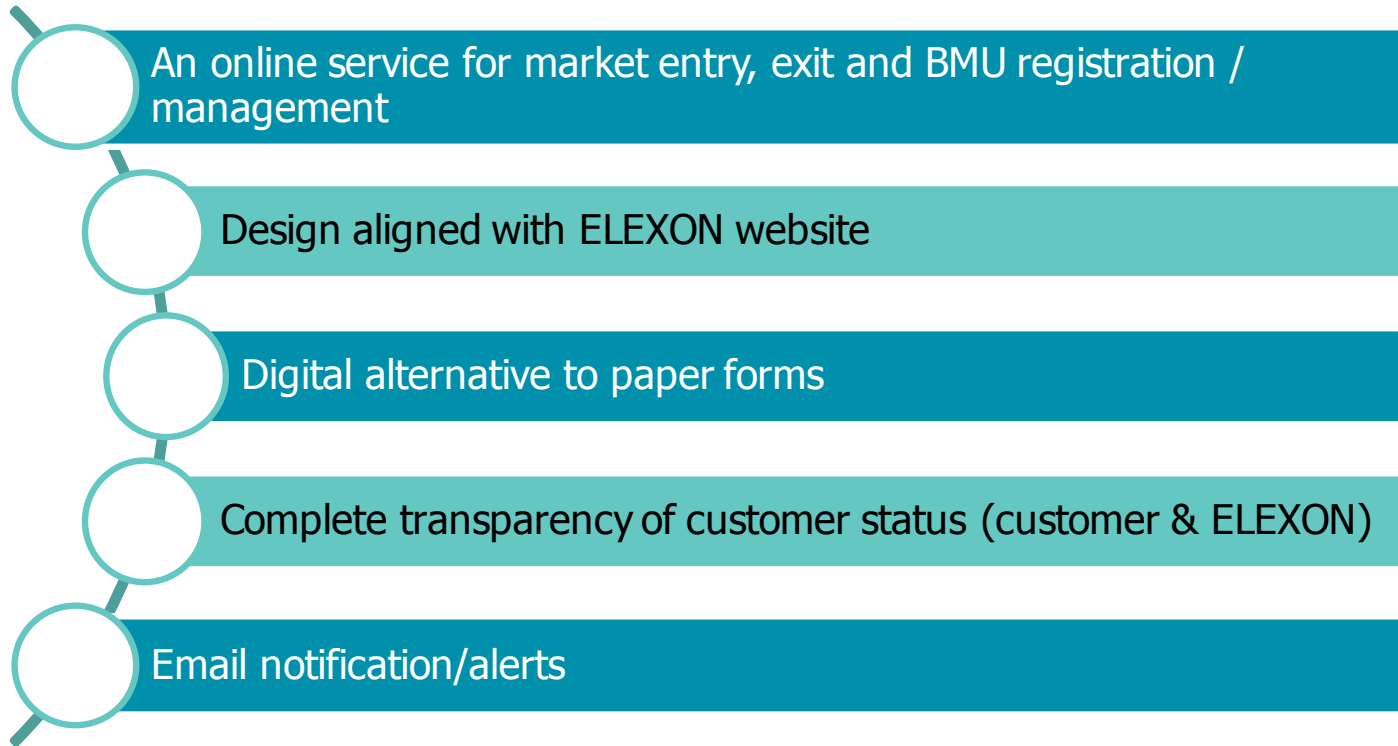


# How can I register under the BSC as a VLP?

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15 January 2019  
Matt Roper

## VLP Registration – CRM Solution



# VLP Registration – CRM Solution – Salesforce

VLP BSC registration will be automated through a bespoke Salesforce solution

- Market leading CRM technology

## Welcome to ELEXON CRA

### Choose Organisation to Manage

#### Paulina Org

Status: Expression of Interest

Type: BSC Party

Party ID:

#### Sample Organisation

Status: Meeting Held

Type: BSC Party

Party ID:

- Role based access
- Access to multiple BSC Party roles

- Guidance documents updated and made available

#### Tutorials

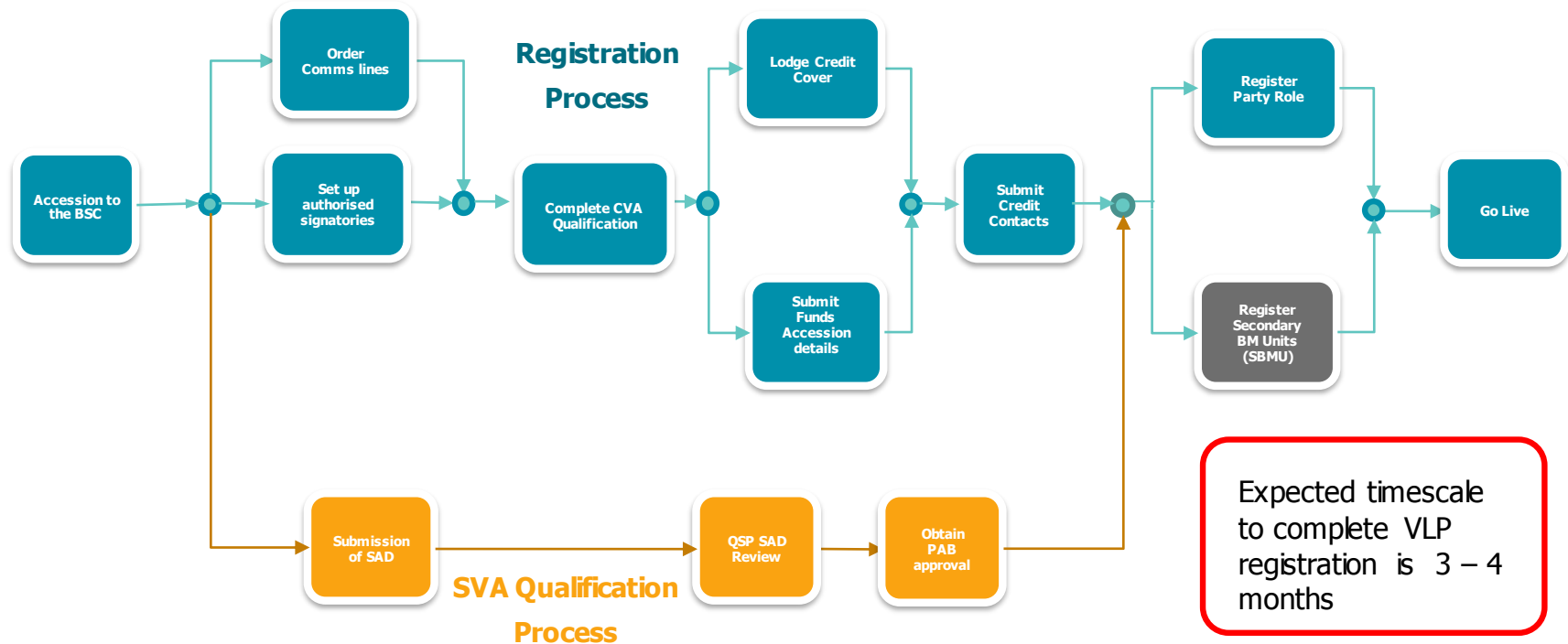
Registering BM Units

Updating Asset Details

Registering New Owner

Adding Authorised Signatories

# VLP Registration – End to End Process



ELEXON has a dedicated Market Entry Team to offer support and advice to new BSC Parties.

Parties can contact them on the ELEXON website [here](#)

# SBMU Registration – CRM Solution – Salesforce

Hello **Paulina Stelmach** - Sample Organisation

## Registration Form

Participant ID ⓘ

BM Unit ID ⓘ

\* BM Unit Name

\* Effective From Date

Effective To Date

\* BM Unit Type

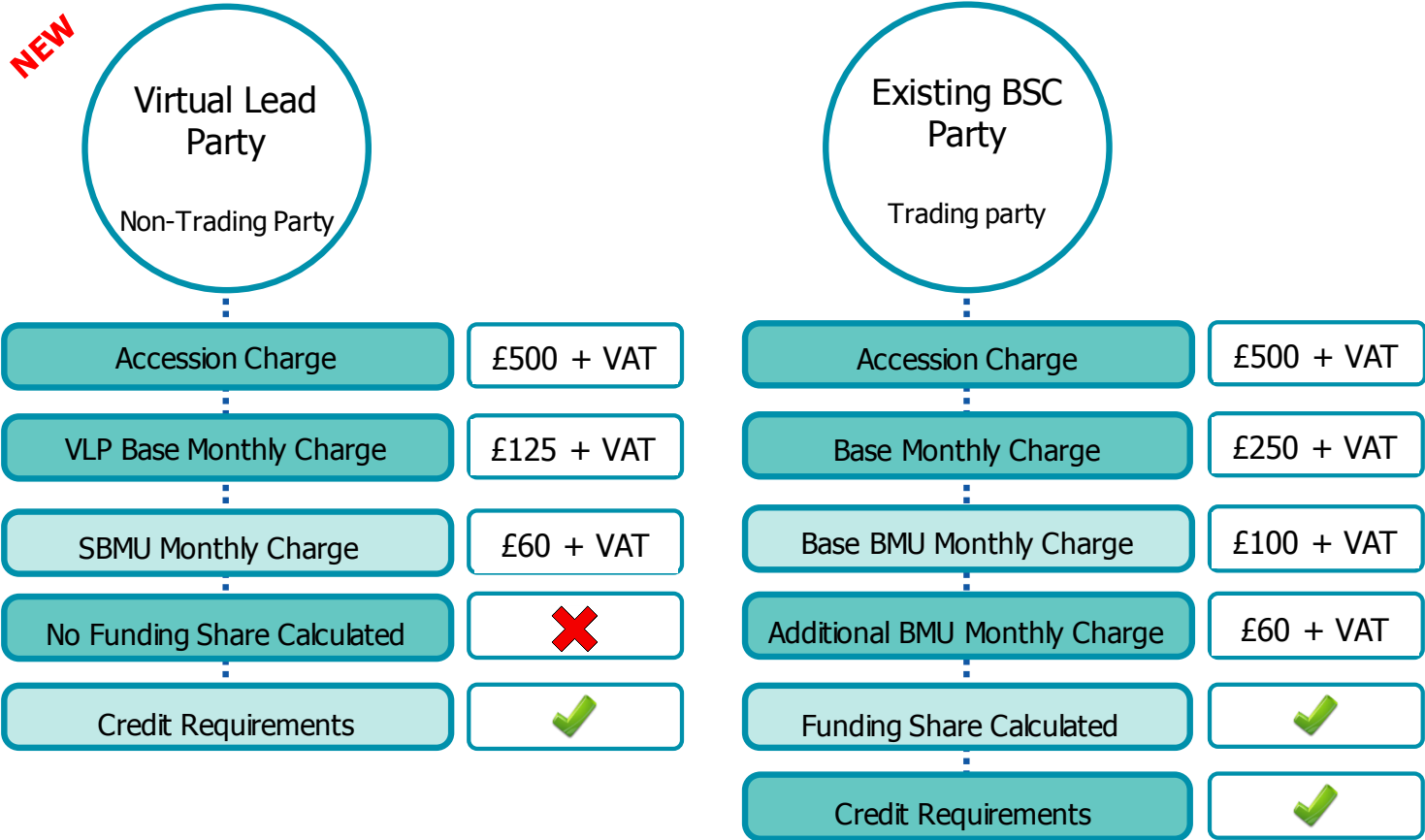
BM Unit Fuel Type

\* GSP Group

- Save as draft functionality.  
Return to complete at a later date

- Optimised data entry
- Instant Validation

# VLP BSC Costs



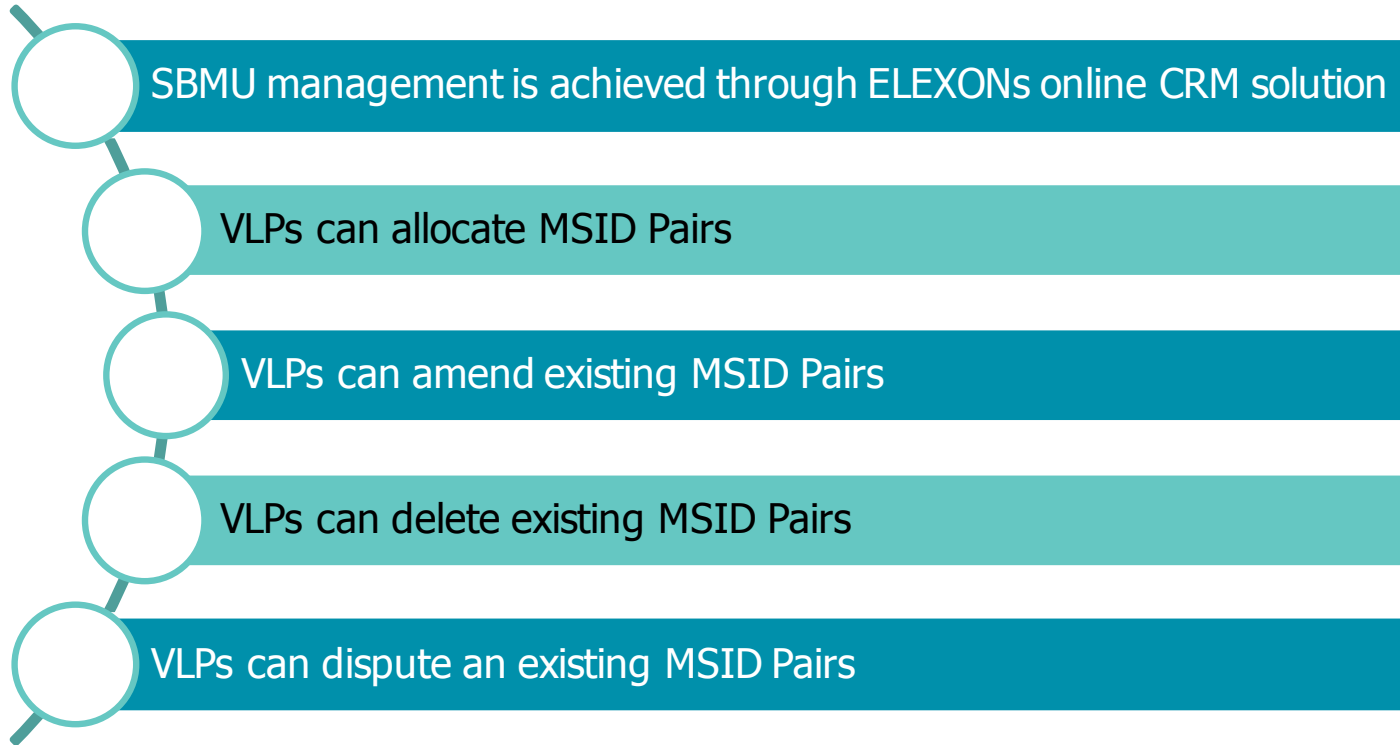


# How can I manage my Secondary BM Units?

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## Secondary BMU Management



# Balancing Services Register

## Balancing Services Register

### ALLOCATE MSID Pair

- Allocation must be 5 WD in the future
- Allocation must be located within the same GSP group as the SBMU

### DELETE MSID Pair

- Deletion must take place within 30 WD of EFSD

### AMEND MSID Pair

- Amendment must take place within 30 WD of EFSD
- MSID Pair EFTD can be reduced at any time

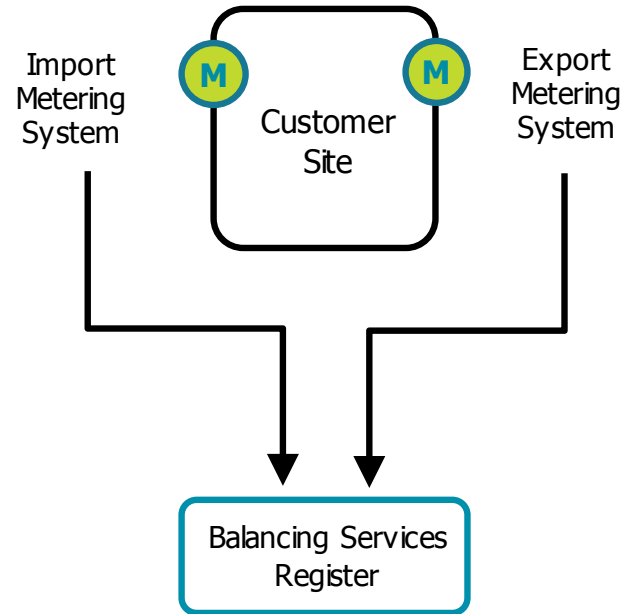
### DISPUTE MSID Pair

- A VLP can initiate a dispute within 5 WD of receiving a Loss or Rejection of Allocation notification.

For detailed process information please refer to BSCP602 which can be found [here](#)

# What is a MSID Pair?

- A MSID Pair represents the SVA Metering System(s) at a single customer site that will provide Balancing Services
- A MSID Pair must include an Import MSID and may include an Export MSID
- This is because on sites with both an Import and Export MSID it is uncertain where the balancing service deviation will be realised.



# SBMU Management – CRM Solution – Salesforce



VLP will be able to add, amend, delete MSID Pairs individually and in bulk through bulk upload functionality

The screenshot displays the Salesforce SBMU Management interface. At the top, a navigation bar includes links for ELEXON, BM Reports, and TAAMT. Below this, a secondary navigation bar shows Home, My Organisation, Market Roles, Energy Assets (highlighted), and Authorised Sign. The main content area is titled 'Manage Metering Systems' and features four search input fields: Search MSID Pair ID, Search Import MSID, Search Export MSID, and Search BMU ID. Below these fields is a table with columns: Unique ID, BM Unit ID, GSP Group ID, Import MSID, Export MSID, From, To, Status, Validation, and icons for adding, deleting, and downloading. A single data row is visible with values: 0217E000003..., V\_ACME-1, \_A, 1013081329..., 1012468240..., 2019-..., 2019-..., and a document icon. Below the table, there is a section for 'Upload MSID Pairs from CSV file' with an 'Upload Files' button and a note: 'Note: Please use the standard template. Download' with a download icon.


Home > Manage Metering Systems


## Manage Metering Systems

Search MSID Pair ID    Search Import MSID    Search Export MSID    Search BMU ID

Unique ID	BM Unit ID	GSP Group ID	Import MSID	Export MSID	From	To	Status	Validation	
0217E000003...	V_ACME-1	_A	1013081329...	1012468240...	2019-...	2019-...			 

Upload MSID Pairs from CSV file

 Upload Files    Or drop files

Note: Please use the standard template. [Download](#) 

- Search functionality
- SBMU reporting download

# Data submission, Dispatch and Delivery

Bernie Dolan

**national**grid**ESO**



# EBGL Background

## Pan-EU Balancing Energy Market

- Development of pan-EU platforms for the exchange of standard balancing energy products
- 6 year implementation period
- Replacement Reserves (RR)
- Manual Frequency Restoration Reserves (mFRR)
- Specific products retained nationally

## Harmonisation of Market Design & Settlement

- Harmonised Gate Closure Time for standard products
- Harmonisation of ISP at Synchronous Area level
- Harmonisation of imbalance arrangements (preference for single imbalance pricing)
- Harmonisation of reserve procurement arrangements

## Cross Zonal Capacity Reservation (CZC)

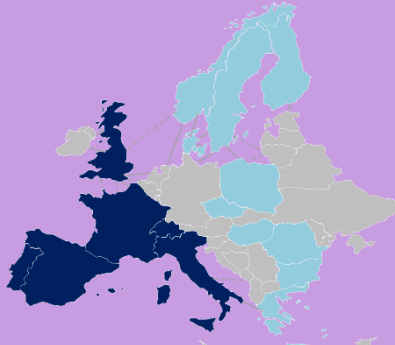
- Opens the possibility for TSOs to reserve XB capacity for the exchange of balancing energy
- Co optimisation with market timeframes
- TSOs to develop detailed methodologies

## European Balancing Platforms

# EBGL Background

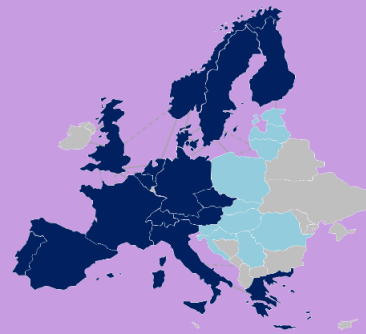
## Project TERRE

- Trans European Replacement Reserves Exchange
- RR Product
- Schedule Activation
- 30min Full Activation Time
- 15min Blocks
- Marginal Pricing
- One auction per hour
- 6 full members
- Go-Live: December 2019

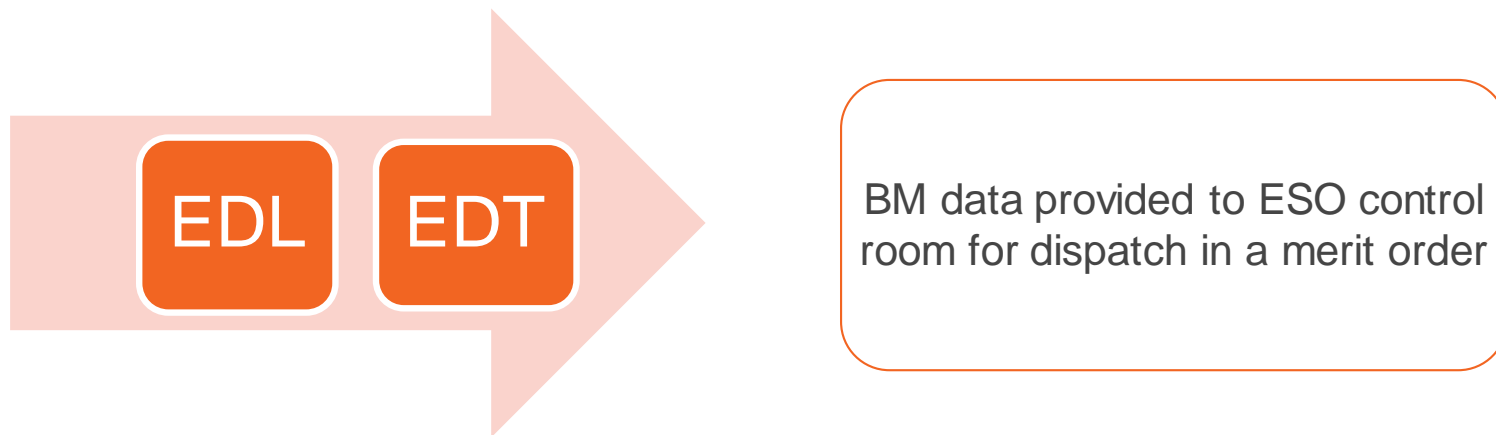


## Project MARI

- Manually Activated Response Initiative
- mFRR Product
- Schedule & Direct Activation
- 12.5min Full Activation Time
- 15 min blocks
- Marginal Pricing
- One auction per 15min
- 19 full members
- Go-Live: December 2021



# Electronic communications system

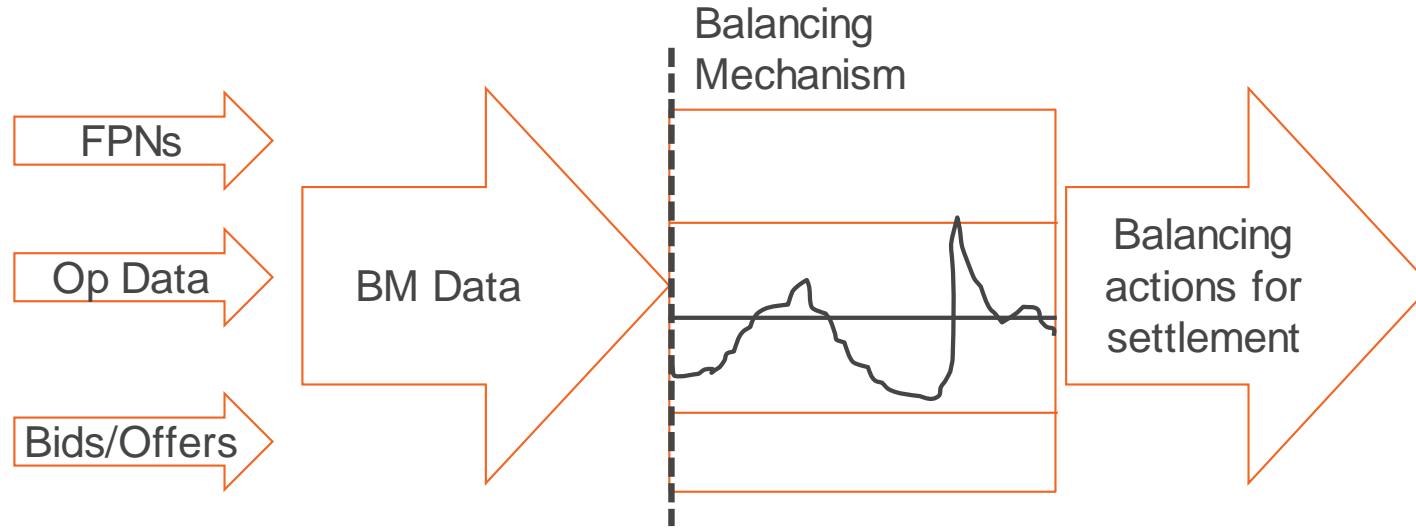


- **Responsibility for providing communications link to NGESO control room**
- **Data validation rules and dynamic data**
- **Must use electronic communication facilities except in exceptional circumstances**

## Grid Code Dynamic parameters

Data	Used for BM	Used for TERRE
Physical Notification	✓	✓ (for auction periods)
Run up/ run down rates	✓	✓
Maximum Export Limit (MEL), Maximum import limit (MIL)	✓	✓
Stable Export limit (SEL), Stable Import Limit (SIL)	✓	X
Minimum Zero Time (MZT), Minimum Non-Zero Time (MNZT)	✓	X

# The Balancing mechanism

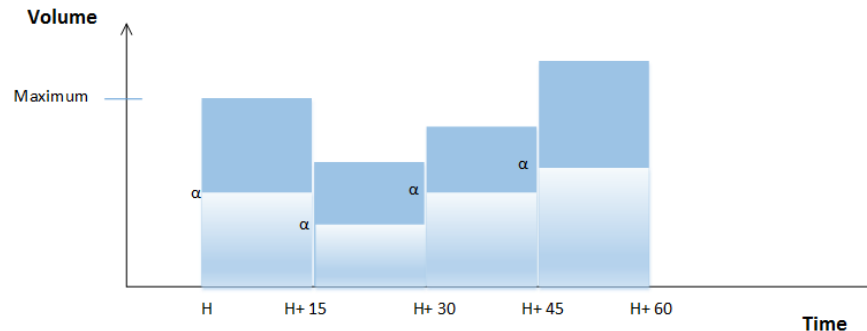


- **Physical notifications defaulted at 11:00 hours for each settlement period of the following day**

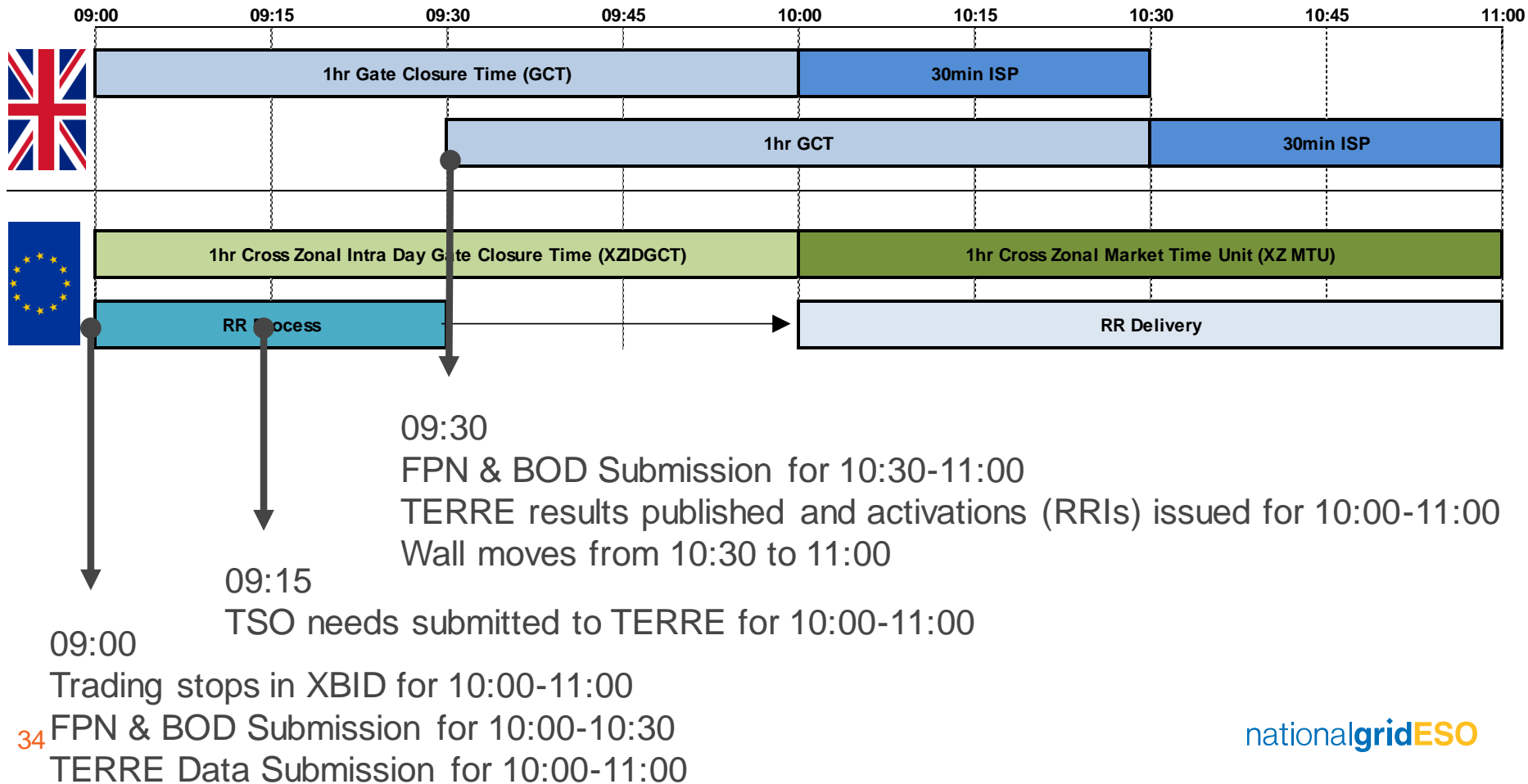
# Where to find info on content of RR bids

## Available in RR Implementation Guidelines

- Divisible bids
- Indivisible bids
- Linked bids in time
- Exclusive bids
- Multi-part bids



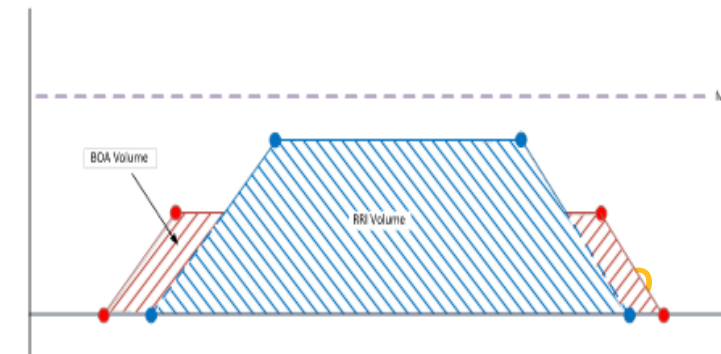
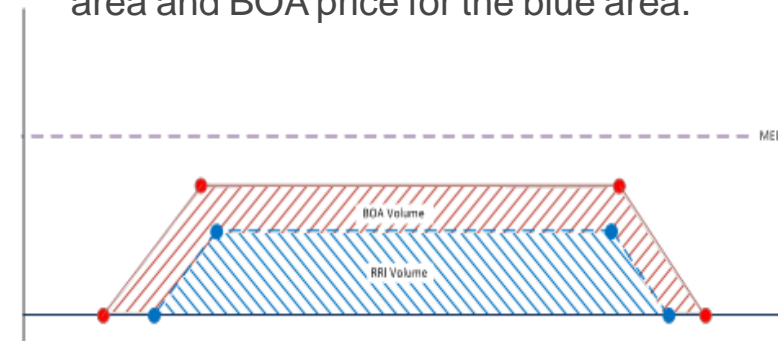
# Overview



- **Actions in the same direction:**

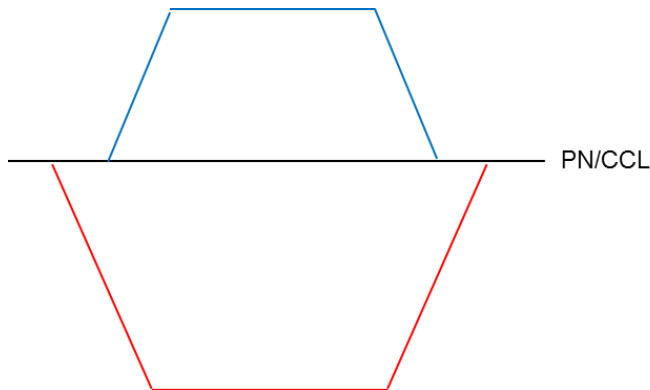
- The restriction of RRIs will occur when a BOA has been issued if deemed necessary
- When a BOA has been issued before an RRI and they are in the same direction and the BOA volume is larger than the RRI, no RRI will be issued
- Unit to be settled for the RRI volume using the RR Activation with the remaining volume settled at the BOA price (i.e. the red area in the bottom left diagram)
- When a BOA has been issued before an RRI and they are in the same direction and the RRI volume is larger than the BOA, a RRI will be issued for the difference (blue area above red area in bottom right diagram).

• The RR schedule will be used to ensure that the unit is paid the TERRE clearing price for the blue area and BOA price for the blue area.



- **Actions in opposite directions:**

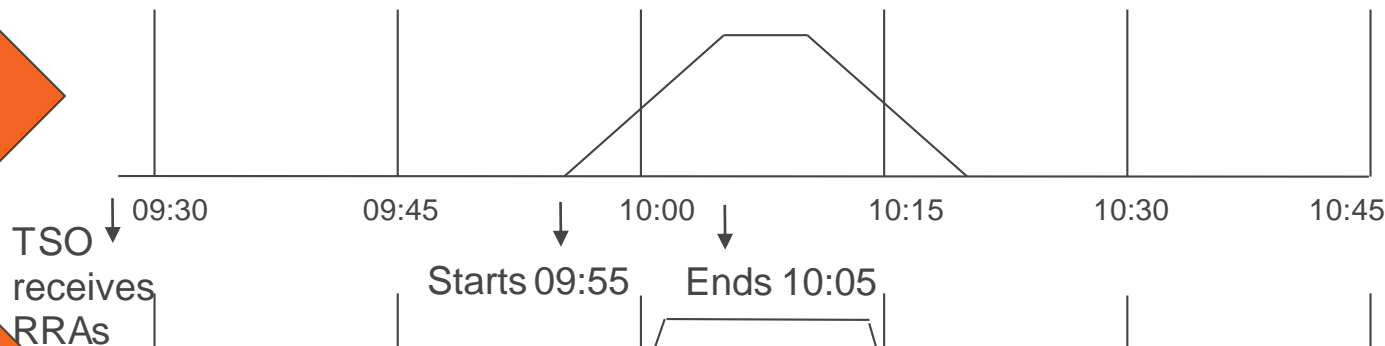
- Where a BOA has been issued before an RRI and they are in opposite directions the RRI will not be issued and the unit will continue to follow the instructed BOA output.
- Option 1: By automatically unwinding the RRI at the bid/offer price in the BM
- Option 2: By automatically unwinding the RRI at the bid/offer price in the BM but capping the unwinding cost at £0
- Option 3: By removing any unwinding cost for the RRI
- Option 1 was chosen



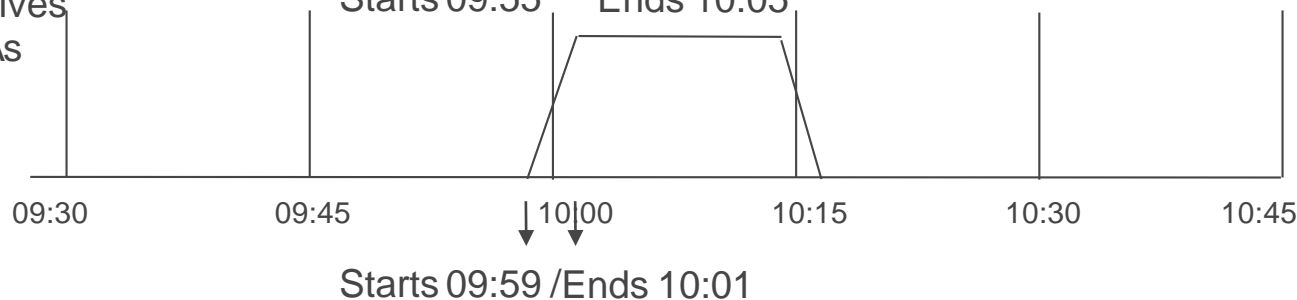
# Expected shapes of delivery

Delivery

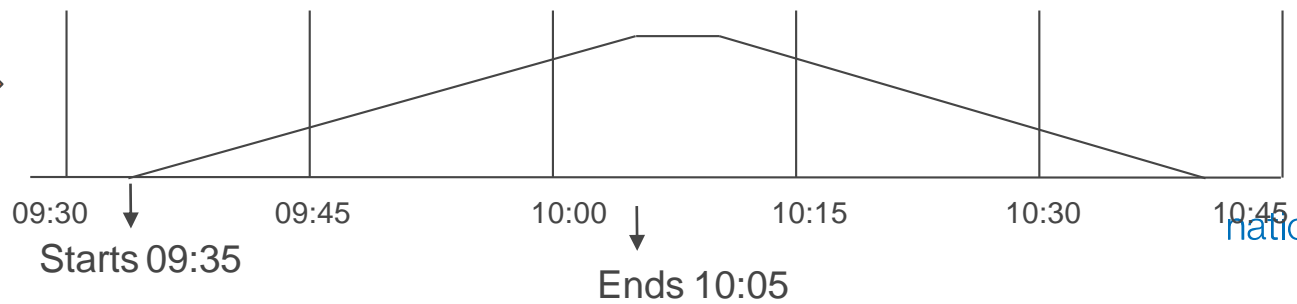
**Ideal  
Shape**



**Faster  
Rate**



**Slowest  
Rate**





# VLP Settlement

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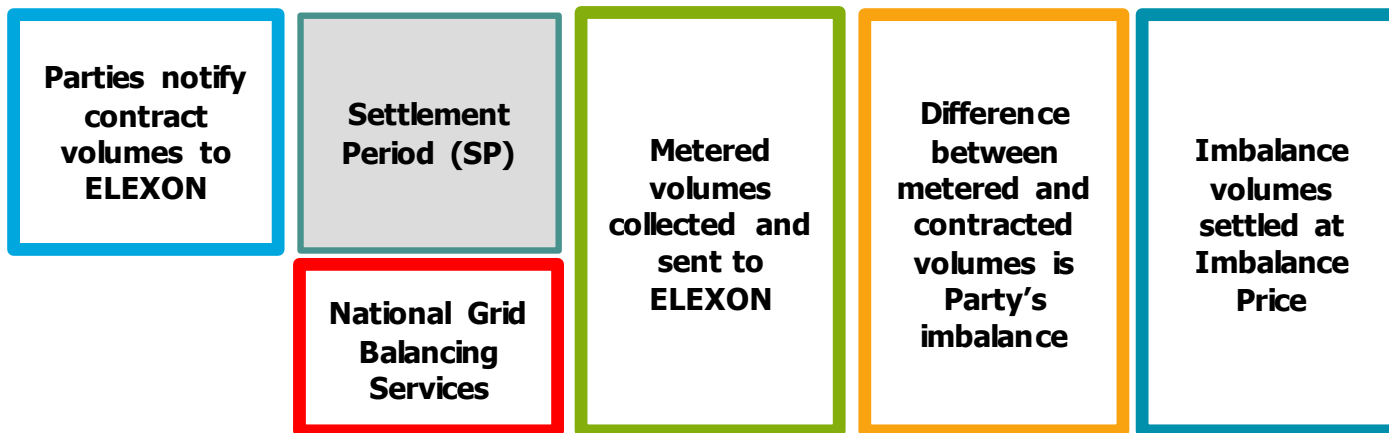
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# Introduction



## What is Settlement?

ELEXON calculates payments to / from Parties in regards to mismatches between BSC Parties contracted and metered positions



In addition ELEXON calculates payments to / from Parties in regards to Balancing Services

# EU Market Participant Role Concept

## Balancing Service Providers (BSP)

EBGL Article 2 (6)

*'... a market participant with reserve-providing units or reserve-providing groups able to provide balancing services to TSOs'*

- Can offer balancing energy volumes to its connecting TSO
- Can offer balancing capacity to its connecting TSO

## Balance Responsible Party (BRP)

EBGL Article 2 (7)

*'... a market participant or its chosen representative responsible for its imbalances'*

- Can trade on the wholesale market
- Can trade on the retail market

Using EBGL defined terms a VLP under the BSC shall:

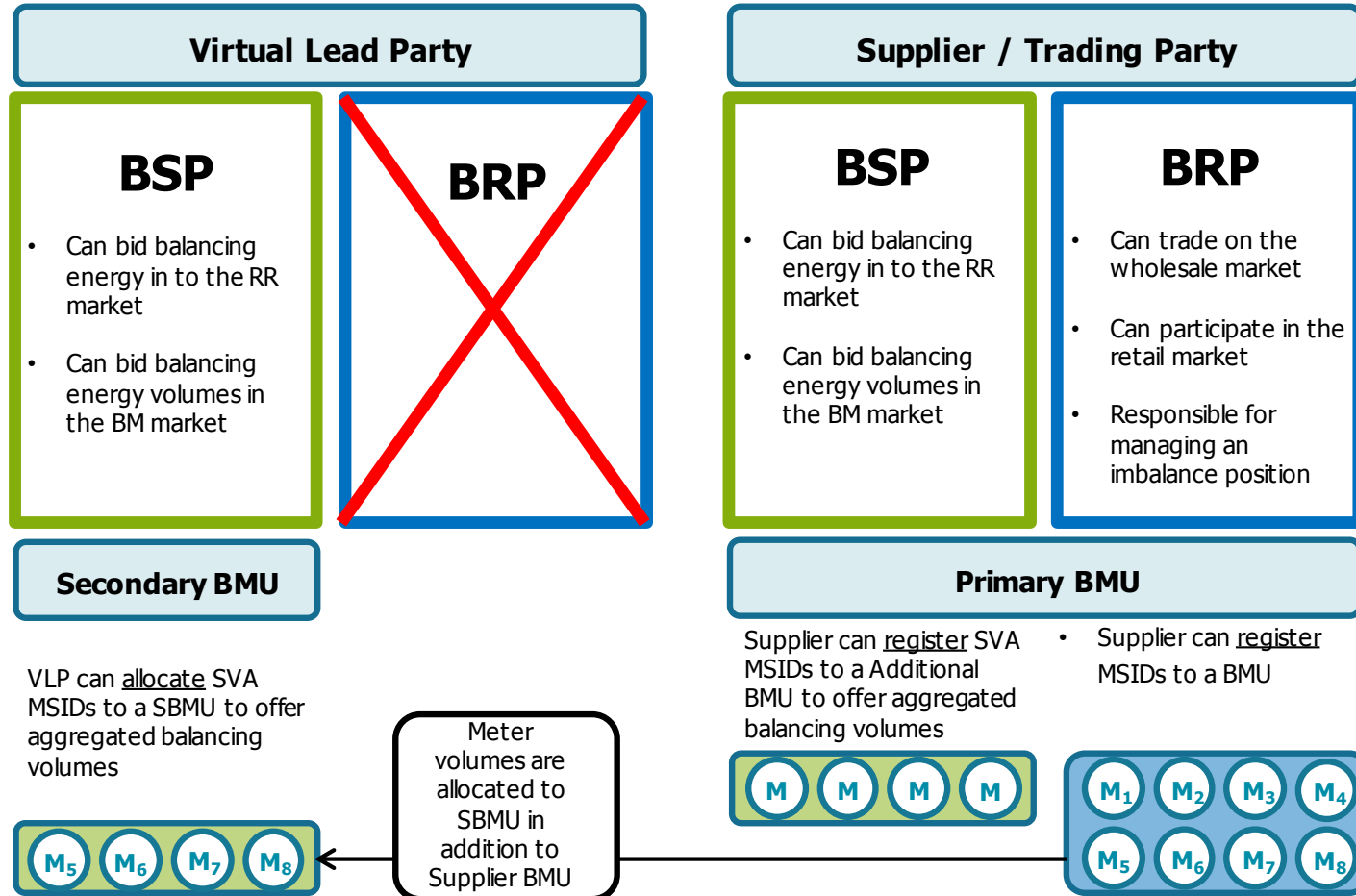


be a Balancing Service Provider (BSP)



not be a Balance Responsible Party (BRP)

# EU Market Participant Role Concept in the BSC





# Balancing Energy Settlement

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# Balancing Energy Markets

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## **Balancing Mechanism (BM)**

- GB Balancing Energy Product
- Defined within the Grid Code
- Acceptances issued by NGESO

## **Replacement Reserve (RR)**

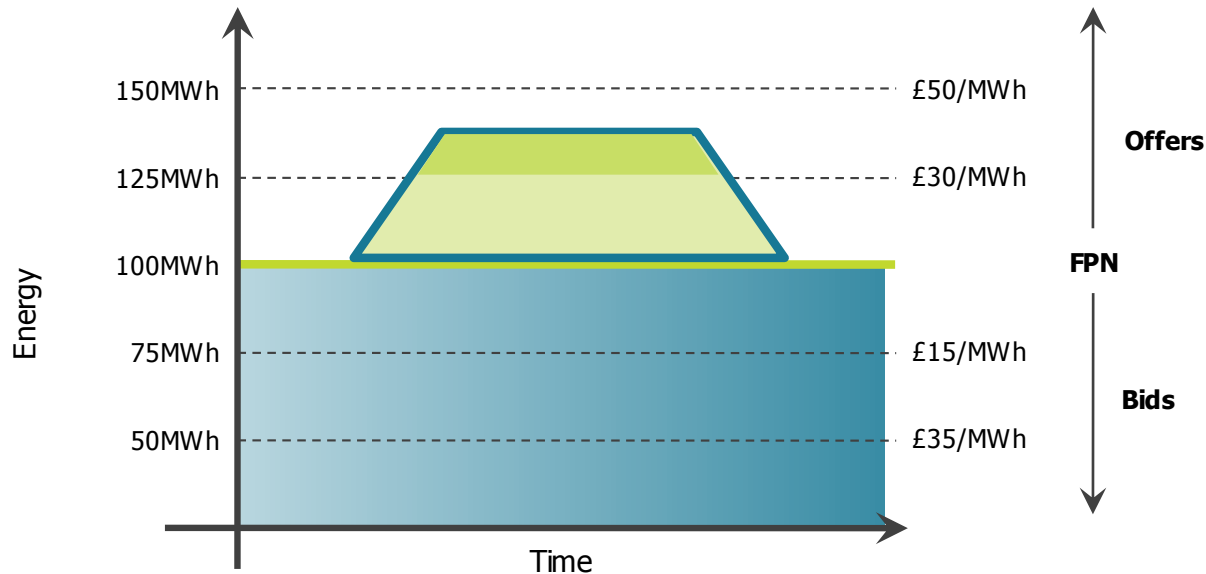
- Pan-EU standard balancing Energy Product introduced via Project TERRE
- European defined characteristics
- Acceptances issued by a central European platform (LIBRA)

# How will BM Acceptances be paid?

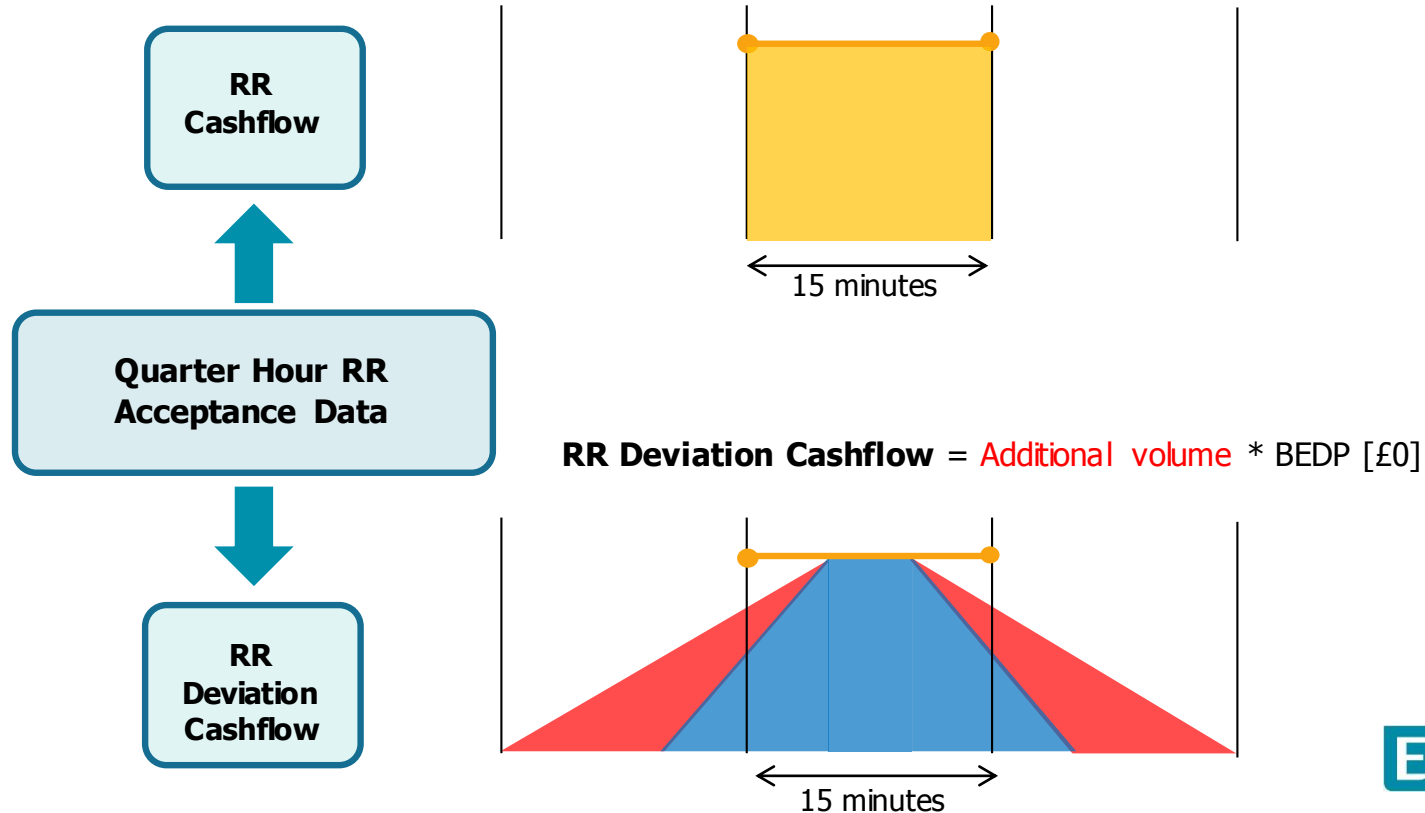
- VLP to be paid by Balancing Energy Volume per Bid-Offer Band

**BM Period  
Cashflow**

- Balancing Energy Volume calculated from the dispatch profile received from NGESO



# How will TERRE Acceptances be paid?

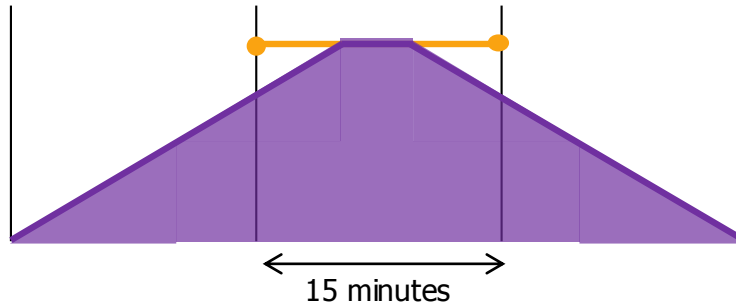


# How are TERRE Balancing Energy Volumes determined?



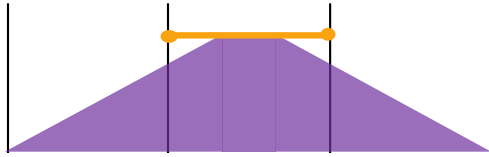
## What is a RR Schedule?

- Settlement derived representation of the TSO RR dispatch instructions needed to successfully fulfil the activations for a RR Auction period
- The RR Schedule will respect the BM Unit declared Dynamic Data Set (where possible) and align with TSO RR Dispatch Principles (as defined by National Grid)



# What happens if I don't deliver?

- Any resultant missing Balancing Energy Volumes are deemed '**Non-delivered Volumes**' and exposed to the Imbalance Price



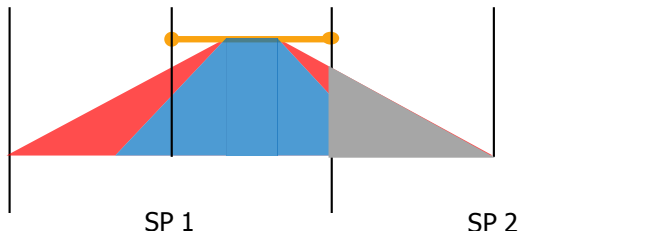
Expected Meter Volume = FPN +  $\frac{\text{Imbalance Energy Volume}}{\text{Imbalance Price}}$   
Compared against Actual Metered Volume

**However if the Imbalance Price is lower than the Activation Price a Party can benefit from non-delivery...**

# What happens if I don't deliver?

- ...therefore settlement introduced a **Non-Delivery Charge** to ensure that no Party can benefit by not delivering

Example: TERRE acceptance partially delivered.  
E.g. nothing delivered in SP 2



## Imbalance Energy Volume for SP 2

DSPO (1 MWh) @ £50 / MWh
IOD (5 MWh) @ £0 / MWh

E.g. Pricing stack for SP 2

Non-delivered Volume	Acceptance Price	Imbalance Price	Non-delivered Volume	Non-Delivery Price
DSPO (1 MWh)	@ £50 / MWh	& £40 =	1 MWh	@ £10 / MWh
IOD (5 MWh)	@ £0 / MWh		5 MWh	@ £0 / MWh

- Where £ Non-Delivery Charge =  $\text{Max}\{(\text{Acceptance Price} - \text{Imbalance Price}), 0\}$



# Imbalance Volume Settlement

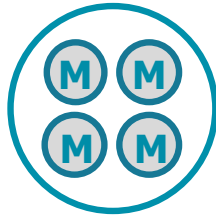
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# Will Imbalance Positions be impacted?

**Virtual Lead Party**

**Secondary BM Unit**



**Yes**

**VLP will be exposed to imbalance for any Non-Delivered Volumes**

**Supplier / Trading Party**

**Primary BM Unit**



**Yes**

**Adjusted for all Balancing Energy Volumes**

**Supplier will be exposed to imbalance for any Non-Delivered Volumes**

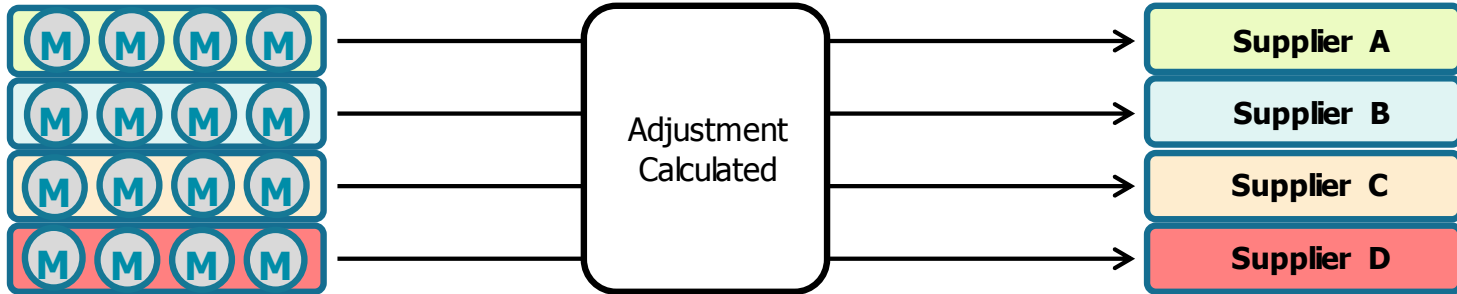
## Will impacted Suppliers Imbalance Position be adjusted?

**Virtual Lead Party**

**Secondary BM Unit**

A Secondary BM Unit can contain SVA Metering Systems registered by many Suppliers in their Primary BM Units

**YES**



VLP will be obligated to register all MSID Pairs they wish to allocate to a Secondary BM Units centrally with Settlement on the 'SVA Metering System Balancing Services Register'.

VLP will also provide 'Delivered Volumes' per MSID Pair so that Settlement can aggregate per Supplier per Secondary BM Unit an appropriate adjustment to applied at the Supplier BM Unit level



# Settlement Reporting

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# BMRS Settlement Reporting

ELEXON

Electricity Data Summary

REMIT

Transparency

Transmission

Demand

Generation

Balancing

Help

ELEXON.co.uk

ELEXON Portal

BM Reports

TAAMT

Balancing

Balancing

MARKET DATA

- Market Depth
- Market Activity
- Credit Default Notices

SYSTEM PRICES

- System Sell and System Buy Prices
- Detailed System Prices
- Market Index Data
- Imbalance Prices (B1770) - 17.1g

BALANCING MECHANISM DATA

- NETBSAD
- DISBSAD
- NON BM Instructed Volumes
- Amount Of Balancing Reserves Under Contract (B1720) - 17.1b
- Prices of Procured Balancing Reserves (B1730) - 17.1c
- Accepted Aggregated Offers (B1740) - 17.1d
- Activated Balancing Energy (B1750) - 17.1e
- Prices of Activated Balancing Energy (B1760) - 17.1f
- Aggregated Imbalance Volumes (B1780) - 17.1h
- Financial Expenses And Income For Balancing (B1790) - 17.1i
- Rules Of Balancing (B1710) - 17.1a

BM UNIT DATA

Physical Data

Bid Offer Data

Balancing Services Volume Data

Search By BM Unit

Dynamic Data

Derived Data

Trading Unit Data

System Zone / BM Unit Mapping

■ Non Transparency Items

■ Transparency Items

BMRS shall be updated to include:

- BM Unit TERRE Bid Data
- Aggregated TERRE Bid Data
- RR Auction Result Data
- Derived Indicative BM Unit RR Data

ELEXON

## SAA-I014: Settlement Report

New data under TERRE will be reported to BSC Parties via the existing SAA-I014 Settlement Report and shall be based on existing BM data items (i.e. period and daily):

- Total System / BM Unit RR Cashflows
- RR Activated Volumes
- Secondary BM Unit Metered Volumes
- Supplier BM Unit Delivered Volume
- And all other supporting information (e.g. GBP/EUR rate, BEDP etc)

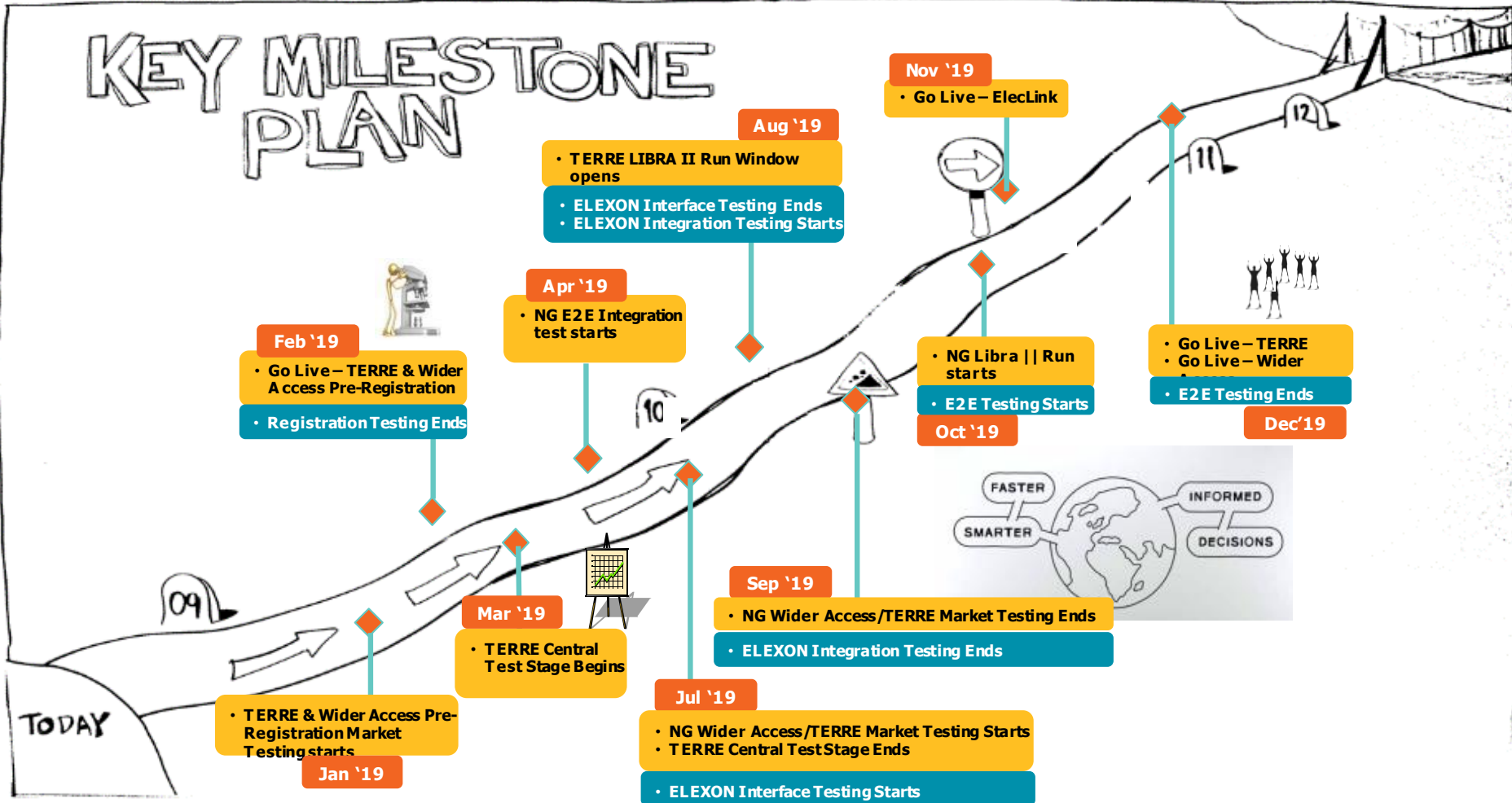


A draft  
SAA-I014 is  
available on  
the ELEXON  
website

A new sub-flow (4) of the SAA-I014 Settlement Report should be created that contains only data that would be relevant to Virtual Lead Parties.



# KEY MILESTONE PLAN



# Where to find more information

[GC0097](#)

[BSC P344](#)

[CMP295](#)

[Wider  
Access  
Roadmap](#)

[TERRE and Wider  
Access Industry  
update](#)

# Q&A



## Further information

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**ELEXON:**

**[bsc.change@elexon.co.uk](mailto:bsc.change@elexon.co.uk)**