P415 Microsoft Teams Meeting

- Welcome to the P415 teleconference – we'll start in a moment
- No video please – conserve bandwidth
- All on mute – use IM if you can't break through
- Talk – pause – talk
- Lots of us are at home – be mindful of background noise and connection speeds
- "Raise your hand" feature to let the chair know you'd like to speak

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P415

Facilitating access to wholesale markets for flexibility dispatched by Virtual Lead Parties

25 March 2021

Meeting Objectives and Agenda

- Consider network charging arrangements and calculation of Deviation Volumes for P415;

Agenda Item	Lead
Welcome and meeting objectives	Elliott Harper (Chair),
Summary of 2nd Meeting	Ivar Macsween (Elexon)
P415 Defect	Matthew Roper (Elexon)
P415 Solution Principles	Matthew Roper, Workgroup
Consideration of a “Level Playing Field”	Matthew Roper, Workgroup
Calculation of Deviation Volumes	Matthew Roper, Workgroup
Imbalance Settlement	Matthew Roper, Workgroup
Next Steps	Ivar Macsween
Meeting Close	Elliott Harper

SUMMARY OF 2ND MEETING

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Summary of 2nd Meeting

Visibility of Trades

- System Operator needs to know what generators intend to generate, and what Suppliers intend to consume, for each Settlement Period
- “National Grid do not want to be surprised by any action taken after Gate Closure”
- VLPs would use the existing ECVN / MVRN functionality to align with existing Wholesale market players (covering trade capture and trade position calculation)
- The Proposer confirmed that he believed the Supplier should operate under the assumption that flexible assets are not going to be dispatched - in instances where they are dispatched that will be covered by the P415 adjustment.
- Ultimately, the solution should allow the supplier to act without prior knowledge of VLP activity, safe in knowledge they will not be held responsible for any deviations caused by this VLP and they can trade as forecasted, relying on the P415 mechanism rather than trusting in relationship between a Supplier and VLP.

Summary of 2nd Meeting

Potential self-balancing

- Proposer stated that he would be willing to allow additional procedural requirements on VLPs when it comes to notification of activity.

- The purpose of P415 is not to allow actions be taken post Gate Closure and this is a pragmatic offer that would hold VLPs to a slightly higher standard but gives additional assurance to industry that a potential perceived loophole for post Gate Closure dispatches by VLPs will be impossible under P415.

Barriers to entry

- The group considered whether a VLP would be likely to either trade exclusively in either the Wholesale Market or the Balancing Mechanism, but not both.

- The group are keen to avoid having to force them to build new systems or undergo additional qualification processes for VLPs who would trade only in the BM and not trade in the Wholesale Market in the future - potential barrier to market entry for those who want to remain “vanilla” VLPs.

- Keeping these functional areas separate in regards to qualification requirements was agreed to be a reasonable starting position.

Summary of 2nd Meeting

Deviation Volumes

- Deviation Volumes was adopted for volumes that would be introduced by P415, i.e the deviation that the VLP has taken an action to deliver.

Non-BSC non-commodity charges

- The Workgroup discussed liability for non BSC non-commodity charges (such as TNOUS and BSOUS) that are currently applied to the Supplier and end consumer, and what happens when the Supplier position is corrected.

- Noted that, in the Balancing Mechanism, the VLP provides aggregated metered metering data to Elexon confirming the action they took in comparison to the BM instruction (the BOA).

- Same concept could be carried into P415, where the VLP is not affecting the Supplier's position but the VLP should be held accountable for any position they have traded and if they have caused an imbalance as a result of that.

- Identified as a discussion point in the next Workgroup.

P415 DEFECT SUMMARY

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Independent Aggregator Market Access

	Capacity market	Ancillary services	Wholesale market	Balancing mechanism
Traded how far ahead?	Years	Years to days	Years to 1 hour	Less than 1 hour
Who buys from this market?	Government only	National Grid only	Many parties	National Grid only
Open to independent aggregators?	Yes	Yes	Not yet	Yes

P415 SOLUTION PRINCIPLES

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P415 Solution Principle Recap

1. VLPs shall trade Deviation Volumes on the wholesale market in the same manner as existing Parties i.e. captured using ECVN and MVRN.

2. Deviation Volumes are a measurable commodity that represent an import/export MWh deviation to the Total System

3. The VLP shall be the Balancing Responsible Party (BRP) for any wholesale market Deviation Volumes traded. Neither the counterparty nor registered Supplier shall bear any liability for delivery of the trade

4. The registered Supplier at a site used by a VLP shall receive no Imbalance Settlement benefit nor detriment due to VLP wholesale market activity

5. VLPs shall have no advantage over existing Trading Parties and be subject to same rules and requirements where appropriate

6. VLPs shall be able to trade Deviation Volumes in the wholesale market and provide other flexibility services during the same Settlement Period

A LEVEL PLAYING FIELD

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WG02 Discussion

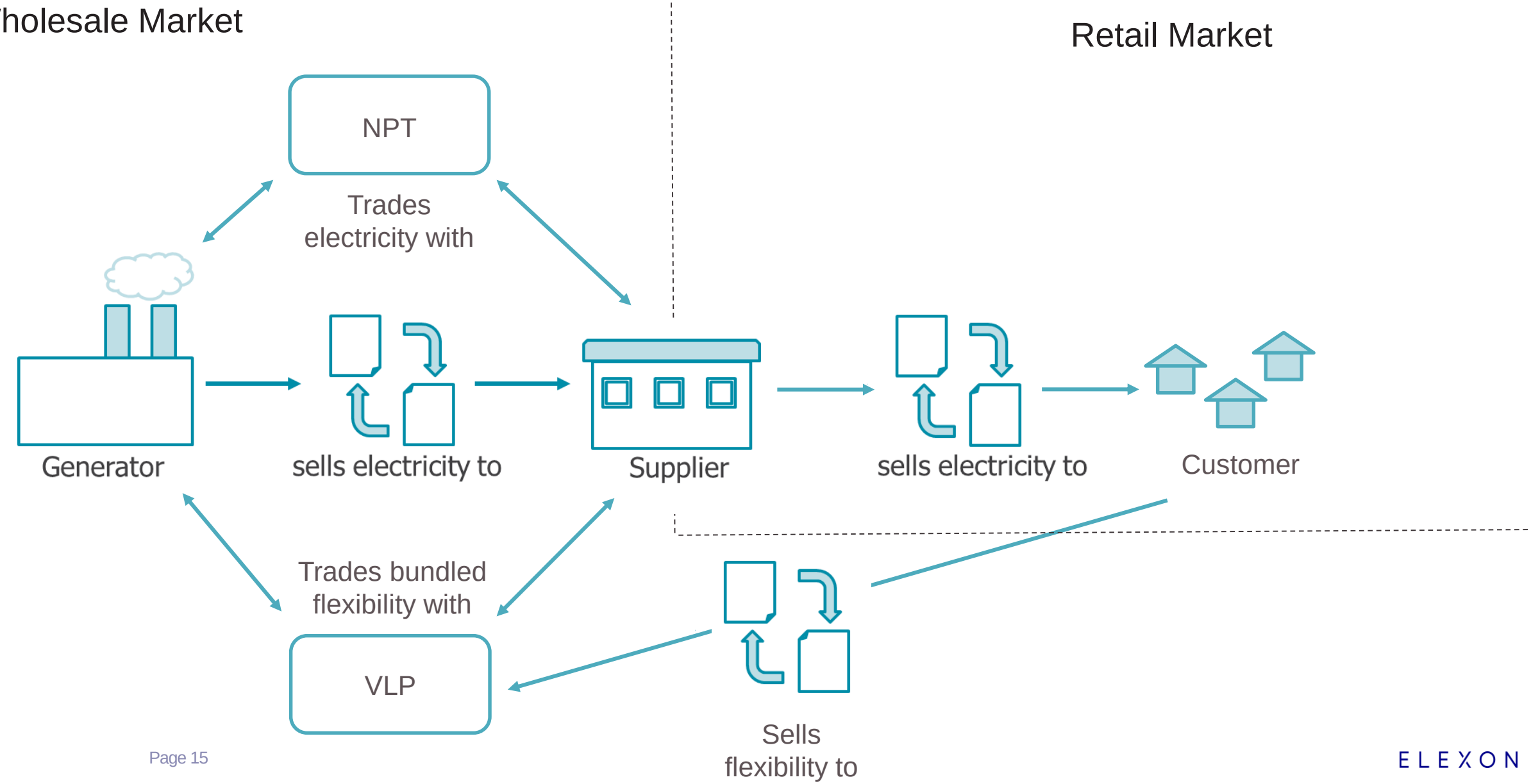
Some WG members expressed concern that non-commodity costs paid by Supplier / Generator would create a non-level playing field in that a VLP who doesn't pay these costs receive an unfair advantage in the wholesale market.

To explore whether a VLP would receive a benefit or not we will explore:

- Market roles
  - what service do they provide?
  - is a VLP a Supplier / Generator?
- Network charges
  - who is currently liable?
  - what is the impact of VLP activity?
  - Network Charging Reform

	SUPPLIER	GENERATOR	NON PHYSICAL TRADER	INDEPENDENT AGGREGATOR
Service Description	Have an agreement with a customer to supply electricity to a metered premise.	Have an agreement with a counterparty to generate electricity.	Trade electricity from Generators, Suppliers and other Trading Parties.	Have an agreement with a customer to provide an independent aggregation service.
Licence Needed?	**YES** Authorised by a **Supply licence** to **"supply"** electricity **NO** Class exemptions exist. Mainly used to resell electricity on a private wire network	**YES** Authorised by a **Generation licence** to **"generate"** electricity for the purpose of giving a supply to any premises or enabling a supply to be so given **NO** Class exemptions exist. Generally apply for capacity < 100 MW	**NO** Non Physical Traders do not produce electricity or supply electricity directly to a metered customer premise.	**NO** Independent Aggregators do not produce electricity or supply electricity directly to a metered customer premise.
Notes	**"supply"**, in relation to electricity, means its supply to premises in cases where [it is conveyed to the premises wholly or partly by means of a distribution system, or by means of a transmission system] **Electricity Act 1989**	**"generate"**, in relation to electricity, means generate at a relevant place; **Electricity Act 1989**		**"Independent Aggregators"** as parties who bundle changes in consumers loads or distributed generation output for sale in organised markets and who do not simultaneously supply the customer with energy. **OFGEM**

Market Roles Diagram



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P415 Solution Principle Update

1. Through independent aggregation a VLP shall trade Deviation Volumes on the wholesale market **on behalf of their customer(s)**. These trades shall be captured in the same manner as existing Parties i.e. ECVN and MVRN.

1. Deviation Volumes are a measurable commodity that represent an import/export MWh deviation to the Total System

2. The VLP shall be the Balancing Responsible Party (BRP) for any wholesale market Deviation Volumes traded. Neither the counterparty nor registered Supplier shall bear any liability for delivery of the trade

3. The registered Supplier at a site where the **customer** has chosen to use a **VLP independent aggregation service** shall receive no Imbalance Settlement benefit nor detriment from such service

5. VLPs shall have no advantage over existing Trading Parties and be subject to same BSC rules and requirements (where appropriate)

6. Through independent aggregation a VLP shall be able to trade Deviation Volumes in the wholesale market and provide other flexibility services during the same Settlement Period **on behalf of their customer(s)**

Wholesale market roles summary

- A VLP does not operate in the same role as a Supplier / Generator.
- Virtual Lead Parties are independent aggregators and do not produce electricity or supply electricity directly to a metered customer premise.
- Currently (as defined in the Electricity Act 1989) Independent Aggregation is not a licencable activity
- Independent aggregation services are separate and distinct from Supplier services.
    - This is recognised as such by OFGEM as by definition an Independent Aggregator does not supply the customer
    - Therefore are not liable for Supplier market specific levies such as AAHEDC, CM, FiT, RO & CFD

Assistance for Areas with High Electricity Costs (AAHEDC) Feed-in Tariff (FiT)
Capacity Market (CM Obligation) Renewable Obligation (RO) Contracts for Difference (CFD)

	SUPPLIER	GENERATOR	NON PHYSICAL TRADER	INDEPENDENT AGGREGATOR
TNUoS charges recover the cost of installing and maintaining the GB transmission system.	HH Customers are charged based on actual demand (Triad periods) NHH customers are charged on annual usage between 4pm and 7pm each day	Bilateral Connection Agreement (BCA) Generators are charged according to TEC (Transmission Entry Capacity). Bilateral Embedded Generation Agreement (BEGA) liable if TEC is 100MW or more Bilateral Embedded Licence Exempt agreement (BELLA) do not pay generation TNUoS charges.	N/A	N/A
DUoS charges recover the cost of installing and maintaining the local distribution system.	HH Customers have a fixed charge (p/day), capacity charge (p/kVA) and unit charge (p/kWh) NHH customers have a fixed charge (p/day) and banded unit charge (p/kWh)	Exporting LV and HV connected generators are deemed to provide beneficial support to the DNO networks and thus DUoS credits are paid by the DNO in recognition of this.	N/A	N/A
BSUoS charges recover the cost of 'balancing the system' and the system operator function.	BSUoS charges are paid by Generators and Suppliers (50/50) Charges apportioned on a half hourly basis using a flat tariff (£/MWh)		N/A	N/A

VLP Impact on Network Charges

- Demand Side Response (DSR) activity is predominantly related to a NET increase of energy on the system (i.e. demand turn down or generation turn up)
- Therefore the impact of DSR activity on a customer / Supplier is predominantly positive in that it will reduce a customers / Suppliers exposure to metered consumption based elements of network charges
- The only negative customer / Supplier impact scenario is the minority of DSR actions that instigate a demand turn up
    - However this would be countered by majority of DSR actions (i.e. demand turn down or generation turn up).
- Therefore the overall NET impact on a customer / Supplier will likely be a reduction in Network Charges
- If VLP were to be liable for Network charges under the current arrangements they would predominantly receive payments for their DSR activity increasing costs for all other customers / suppliers.

Network Charging Reform – TNUoS & DUoS

WG to note that an OFGEM is conducting a comprehensive review of electricity network charging through two closely-linked reviews:

The Access and Forward-looking Charges Review is looking at the 'forward-looking charges' which send signals to users about the effect of their behaviour on the networks. The role of flexibility is due to be considered here. (Currently on hold)

The Targeted Charging Review (TCR) has examined the 'residual charges' which recover the remainder of the total network charges needed to fund network expenditure.

The Targeted Charging Review (TCR) final decision by Ofgem (Nov 2019) details the change to fixed residual charges for all households and businesses - a single set of transmission residual charges to be levied on final demand consumers only (i.e. a fixed-charge-per-day-per-site system)

Note that the TCR mention consumers 322 times and is clear in the language used that OFGEM consider that it is the consumer who ultimately pays Network Charges.

Network Charging Reform - BSUoS

The **Second BSUoS Taskforce** published their final report at the end of September 2020

The key conclusions were that "Final Demand" consumers should be liable for all BSUoS charges, and that these charges should be set in advance.

Final Demand being defined as "electricity which is consumed other than for the purpose of generation or export onto the electricity network".

The Task Force to agree by majority that the most appropriate way of recovering the charge is through a volumetric (£/MWh) charge.

CUSC modifications CMP361 & CMP362 have been raised to implement the recommendations of the taskforce. The implementation date is 01 April 2023

Summary

- VLP not liable for Network charges under current market arrangements

- Customer / Supplier are liable under current arrangements but likely to benefit from any VLP activity

- Future market arrangements reduce the VLP impact on customer / Supplier liability:

  - TNUoS / DUoS will be based upon a fixed-charge-per-day-per-site system
  - BSUoS will likely remain based (at least partially) on metered consumption
  - To be levied against final demand consumers only (likely via the Supplier)

- A VLP is not a final demand consumer nor a Supplier and so should not be liable for all Network charges

- Note that the role of flexibility in network charges to be considered by OFGEM in ongoing market reform work (i.e. The Access and Forward-looking Charges Review).

Given the above we recommend that P415 modification 'level playing field' considerations shall be focussed on BSC arrangements only (including whether or not Supplier should receive compensation for lost revenue). **Does the WG agree?**

CALCULATION OF DEVIATION VOLUMES

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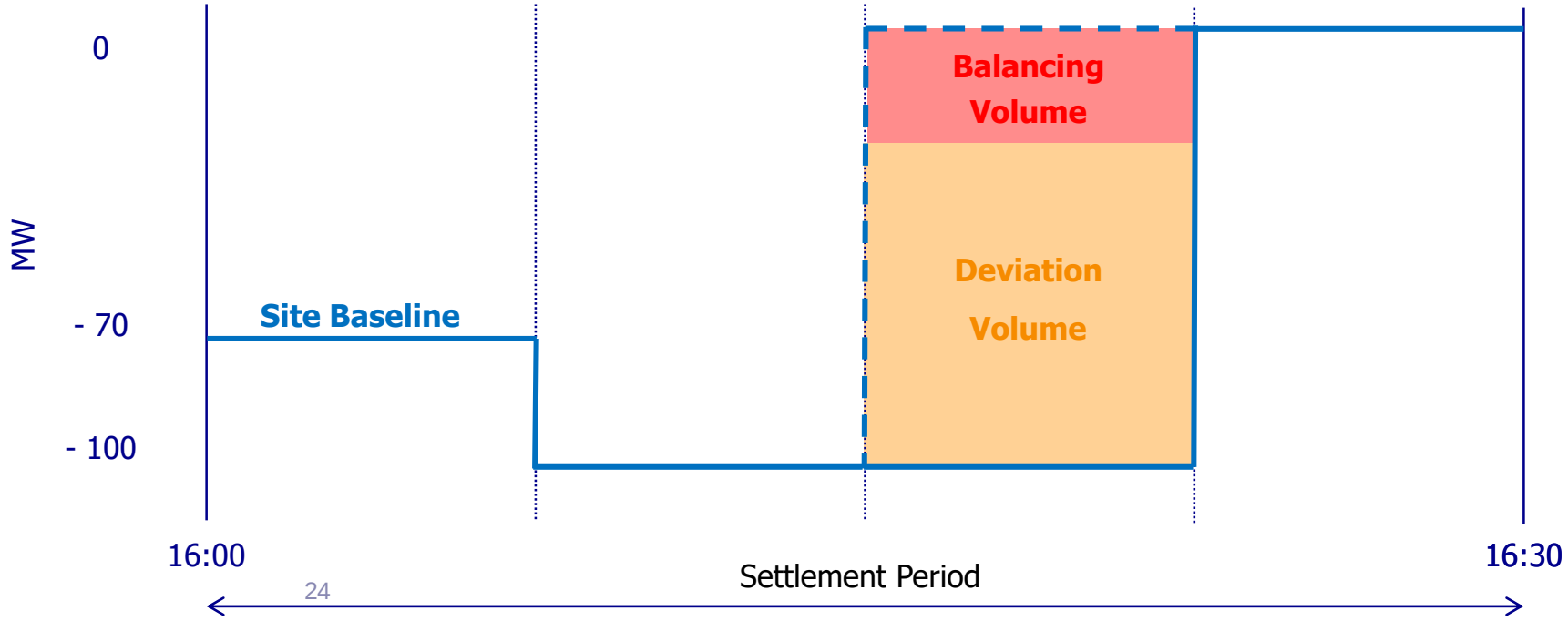
P415 WG03 Simple Worked Example: Early Shutdown - VLP

- VLP B enacts an Early Shutdown (i.e. reduced demand / increased generation at site boundary) in order to fulfil the trade

- The Early shutdown (i.e. a demand response action) effectively results in an additional +11 MWh on the Total System

The accurate calculation of Deviation Volume is dependent on an accurate baseline



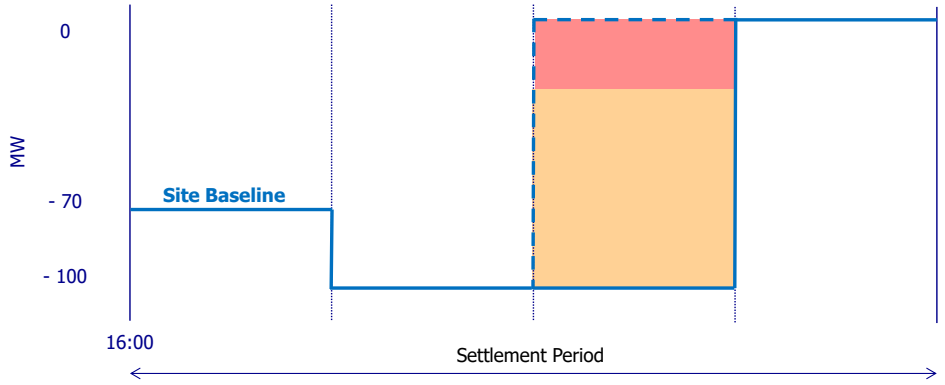
- Pre VLP action site would have consumed 35 MWh
- Post VLP action site consumed 24 MWh
- Deviation equivalent of + 11 MWh on the Total System

Baseline Calculation

Site 1

8 MWh Deviation Volumes and 3 MWh BOA

Factory turn off + 11 MWh deviation at meter
= + 11 MWh to Total System



- Site 1 follows normal consumption pattern until it receives a VLP command.
- Therefore the site baseline profile = 35
- So Deviation Volumes = baseline volume – metered volume
  = 35 – 24
  = 11
- But that also accounts for balancing volumes

Therefore

Deviation Volume = baseline volume – Balancing Volumes – Metered volume

8 = 35 – 3 – 24

P376: ‘Utilising a Baselining Methodology to set Physical Notifications’

What is it?

P376 seeks to allow the expected flows at Supplier Volume Allocation (SVA) Metering Systems participating in the Balancing Mechanism (BM) to be calculated using an approved Baselining Methodology.

The Baselining Methodology shall use recent historic data to provide an estimate of the energy flow that would be expected at a Boundary Point under normal circumstances.

Why is it raised?

The requirement to submit an accurate Physical Notification (PN) for Secondary BMU to provide a balancing service presents an unnecessary barrier to participation in cases where VLP do not have visibility of all assets that share that network connection.

The new Settlement Expected Volume allowing balancing service providers to be more accurately recompensed for their actual change from normal usage and the impact this change has on the system, thus enabling greater participation.

P376: ‘Utilising a Baselining Methodology to set Physical Notifications’

How does the baselining work?

VLP notifies settlement that a SBMU is to be a Baselined BM Unit.

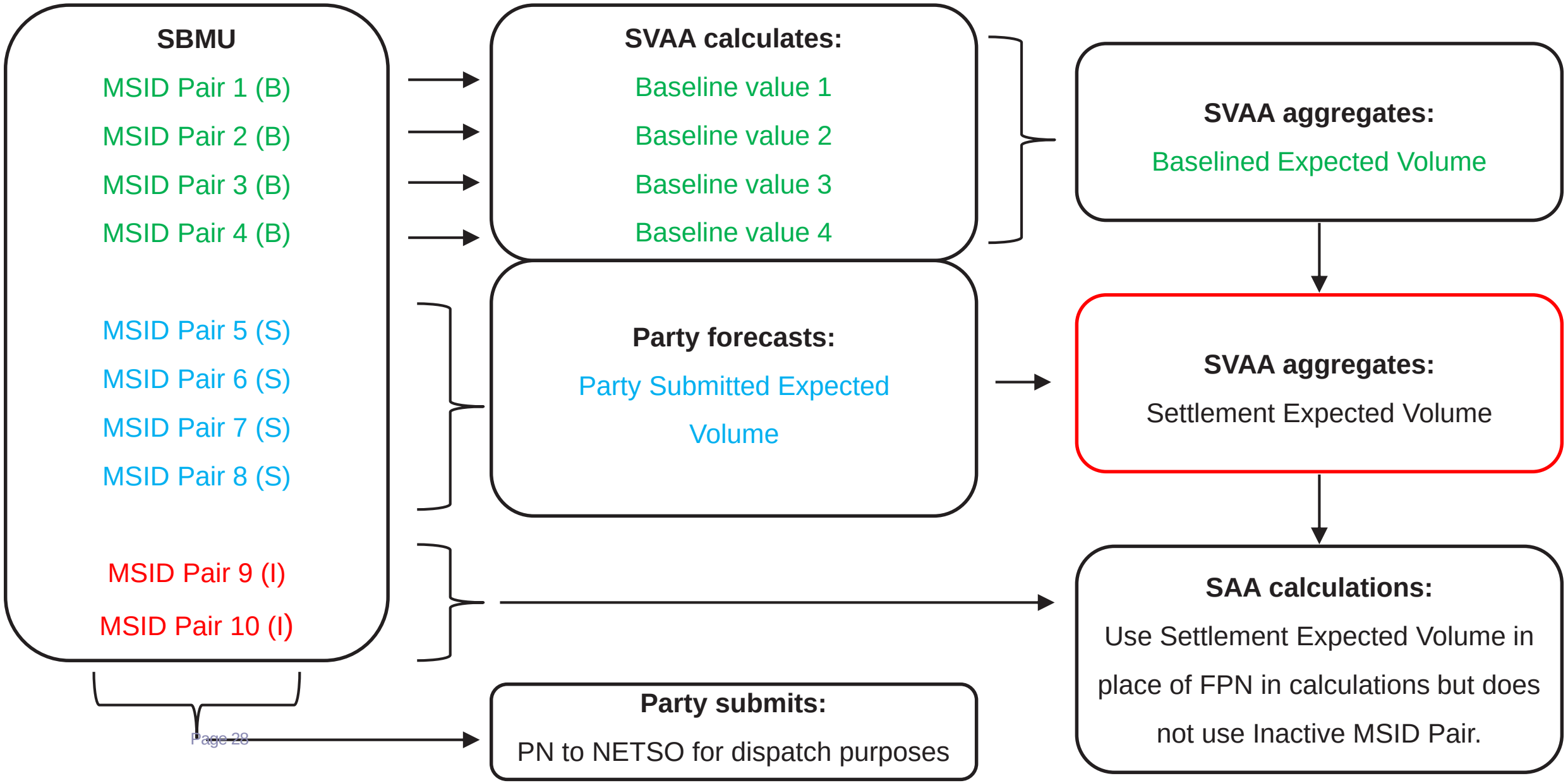
However not all MSID Pairs in a Baselined BM Unit may be suitable for using the baselining solution. Parties will need to monitor MSID Pairs in a Baselined BM Unit to ensure that the appropriate statuses are selected for each. The Party will select from the three statuses:

Baselined – MSID Pairs that will have their forecasted volumes determined using a Baselining Methodology.

Included in Party Submission – MSID Pairs in a Baselined BM Unit that will not have their forecast volumes determined using a Baselining Methodology. Instead Parties will submit an aggregate forecast of energy flows for these MSID Pairs.

Inactive – MSID Pairs in a Baselined BM Unit that will not be used to provide any balancing services and whose volumes will not be used in the calculations. Inactive MSID Pairs will not be able to have Delivered Volumes assigned against them.

P376 Example



P376 Benefits for P415

Benefits of incorporating P376 Settlement Expected Volumes in P415:

- Confidence the Deviation Volumes based upon Settlement Expected Volumes are accurate as P376 will include assurance checks that:
    - the baseline methodology are truly representative of the energy flow at the boundary under ‘normal’ circumstances
    - The VLP submitted volumes are truly representative of the energy flow at the boundary under ‘normal’ circumstances
- P376 has been designed to align with P375 (allowing asset metering in Settlement) removing a significant barrier to entry for VLPs who want to offer a wholesale market independent aggregation service.
- P376 calculates MSID Delivered Volumes automatically for Baselined MSID Pairs taking the burden from VLP
- Utilising P376 functionality reduces cost and implementation time for P415

P376 Further Considerations

- The P415 solution will require mandatory use of a Baselined BM Unit
- The P415 solution shall amend ‘event days’ (i.e. days excluded from baselining calculation due not representing normal site activity) to include Wholesale Market activity
- If a MSID cannot be baselined (lack of ‘normal’ days) settlement relies on VLP submissions
    - i.e. both Settlement Expected Volume and Delivered Volumes
- The P415 solution will need to know when to calculate ‘deviation volumes’ and how
    - i.e. VLP will have to notify Settlement that BMU is to be used in a wholesale market trade and any Party Submitted Expected Volumes
    - Propose to set the submission deadline at GCT to align with NGESO Physical Notification (PN) process
        - Should this apply to both wholesale market trade notification and Party Submitted Expected Volumes?

IMBALANCE SETTLEMENT

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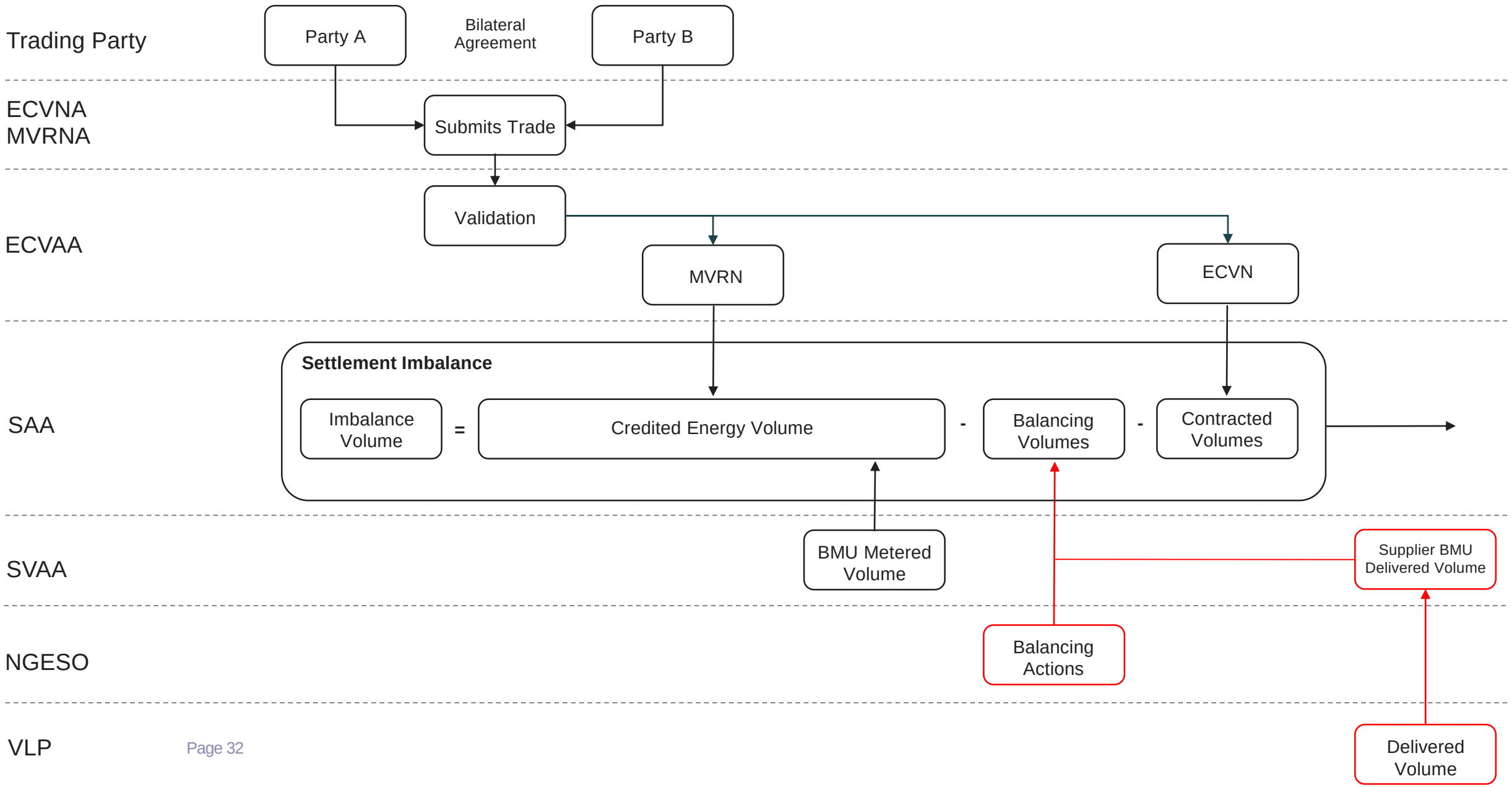
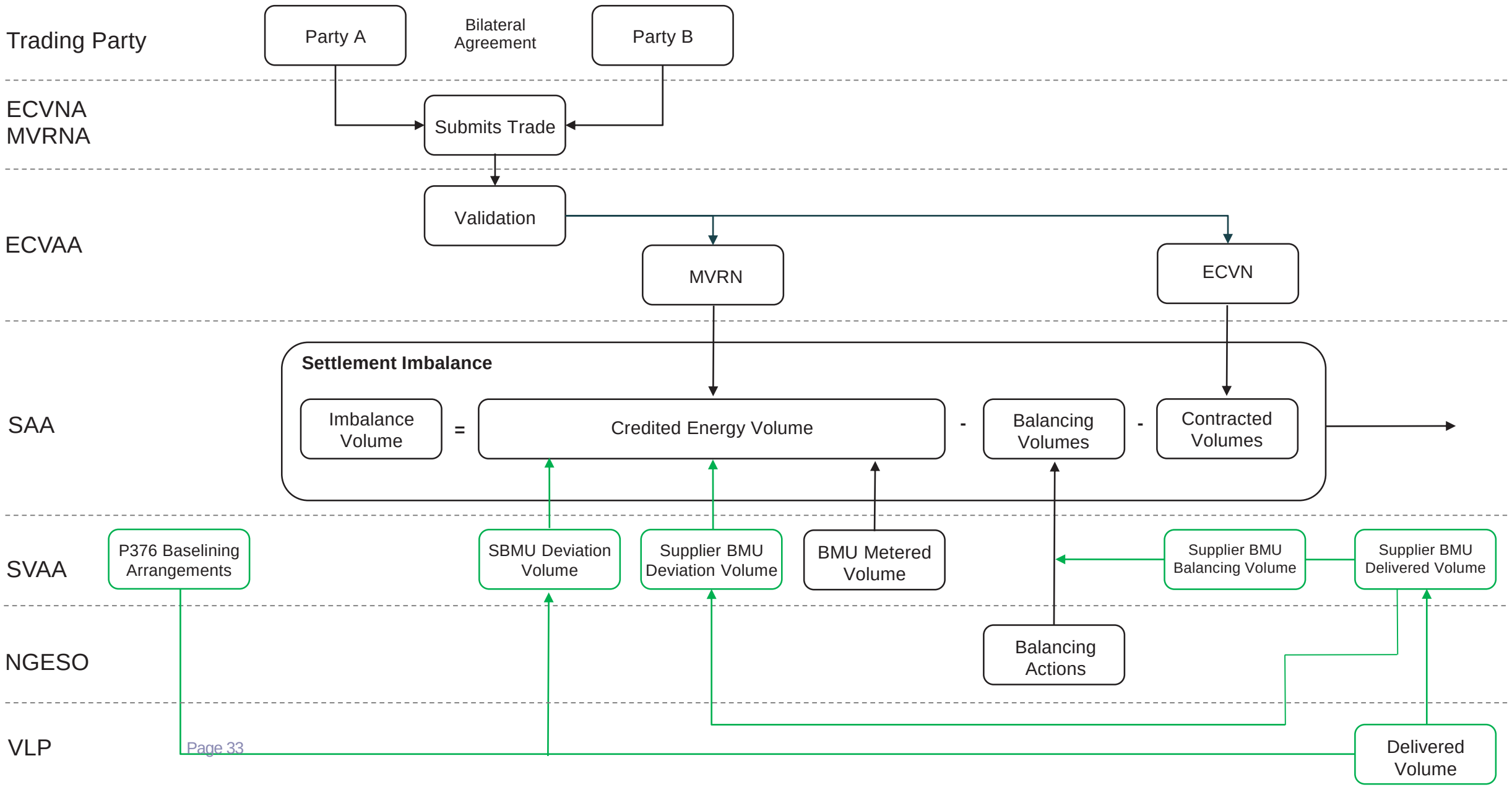
Current Imbalance Settlement Arrangements



Proposed Imbalance Settlement Arrangements



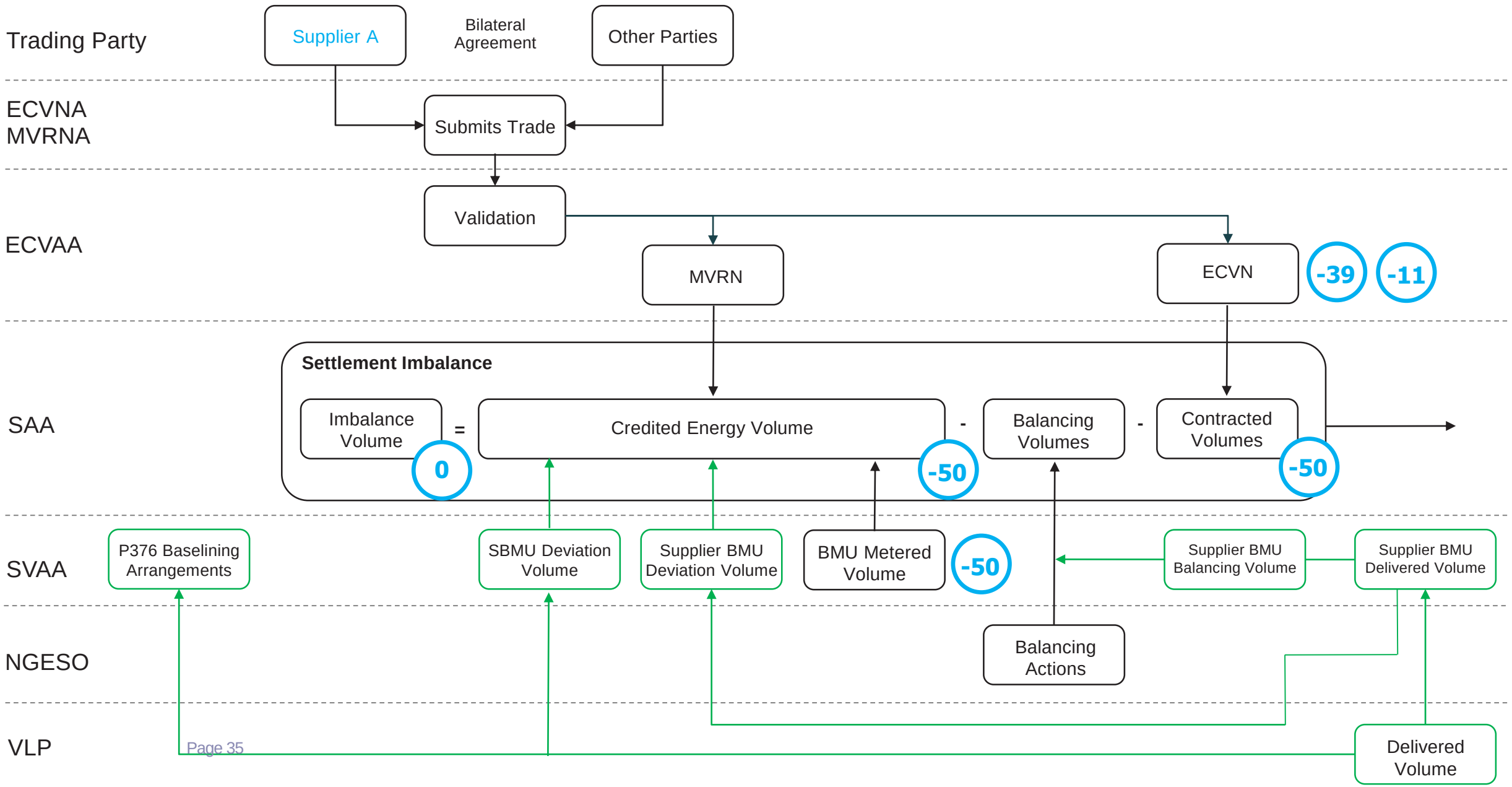
P415 WG03 Simple Scenario

Below is the scenario outline for the WG03 simple scenario:

- Supplier A identifies that their forecast portfolio demand is incorrect and estimate that they will require an additional 11 MWh to balance their portfolio.

- VLP A offers to sell Supplier A the additional 11 MWh at the most favourable price
- Supplier A and VLP A agree to a bilateral trade for +11 MWh
- VLP has one site that it will use to fulfil this trade and the Registered Supplier is Supplier B

Proposed Imbalance Settlement Arrangements: Supplier A

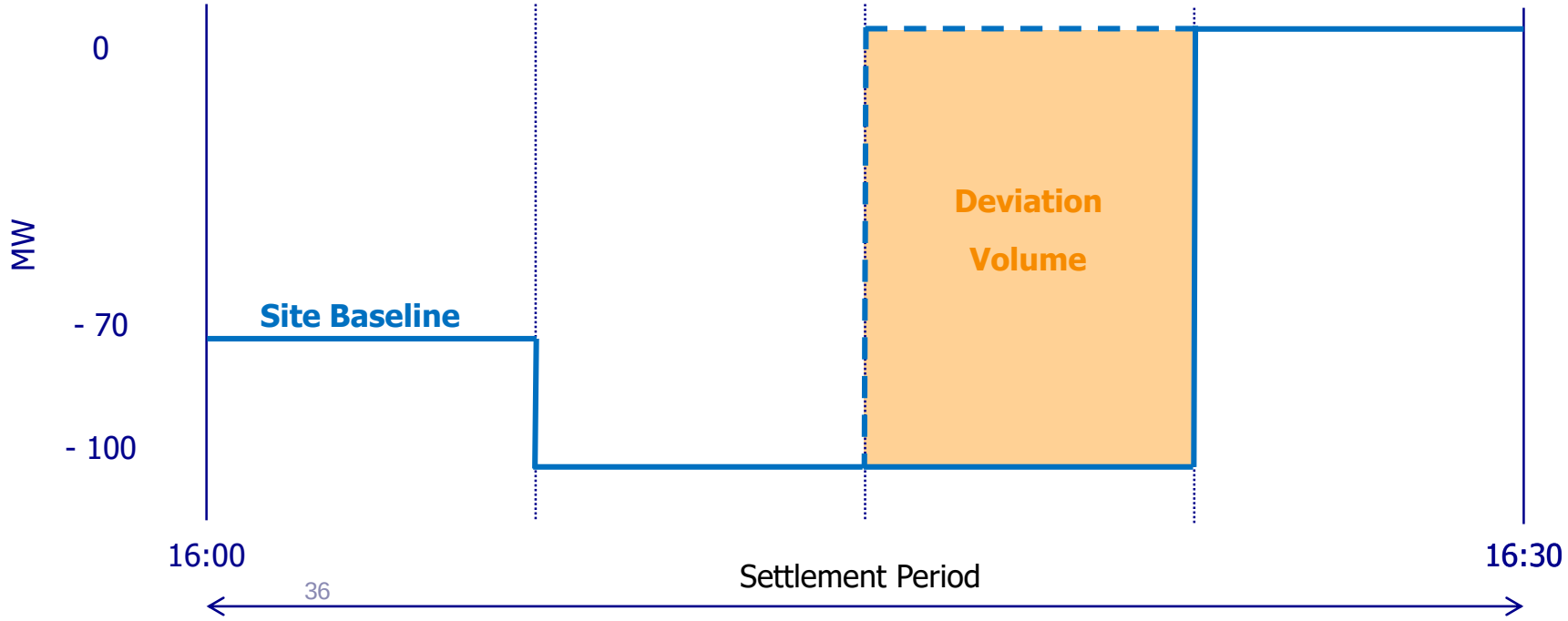


P415 WG03 Simple Worked Example: Early Shutdown: VLP A

- VLP B enacts an Early Shutdown (i.e. reduced demand / increased generation at site boundary) in order to fulfil the trade

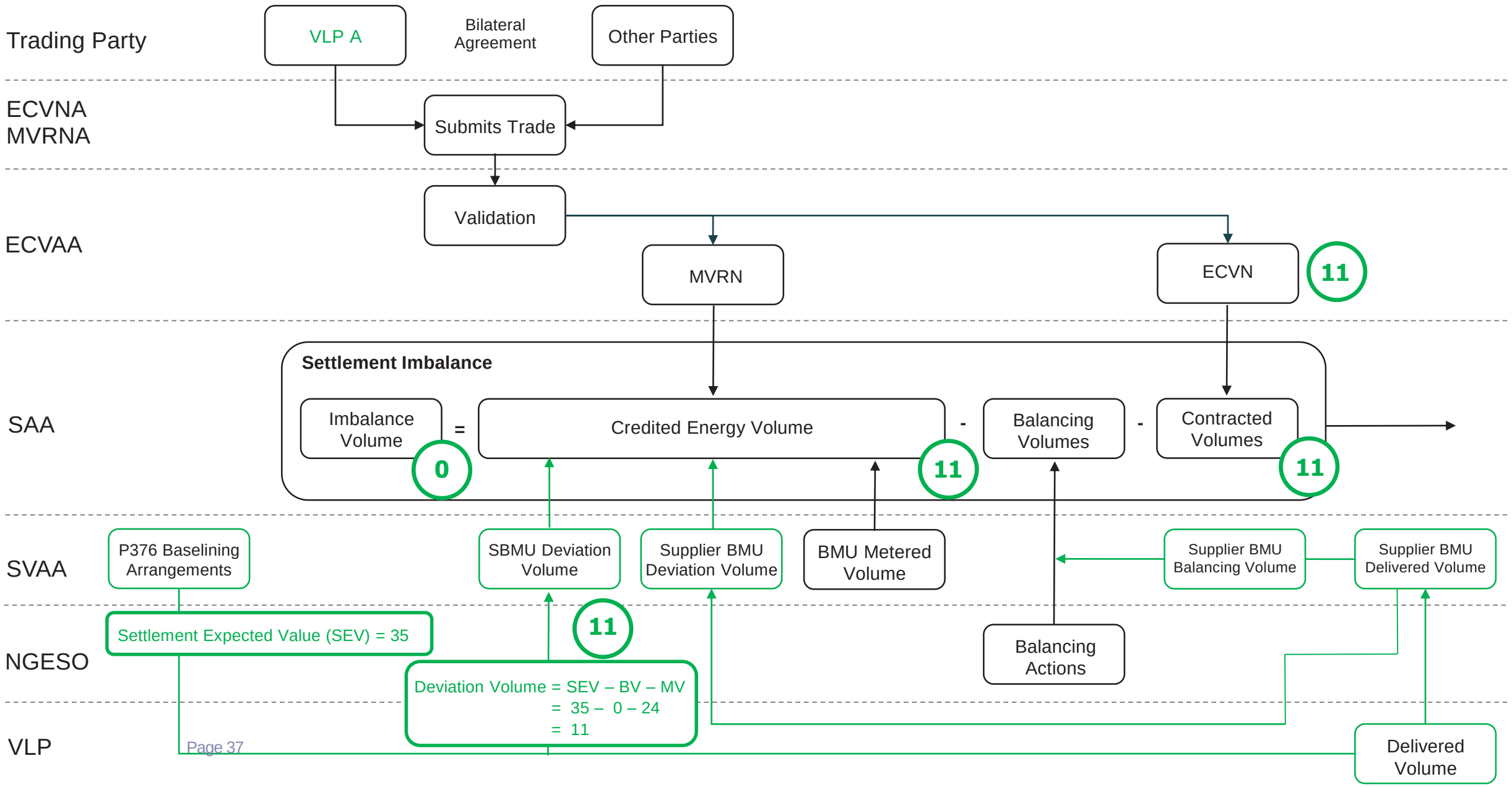
- The Early shutdown (i.e. a demand response action) effectively results in an additional +11 MWh on the Total System

The accurate calculation of Deviation Volume is dependent on an accurate baseline

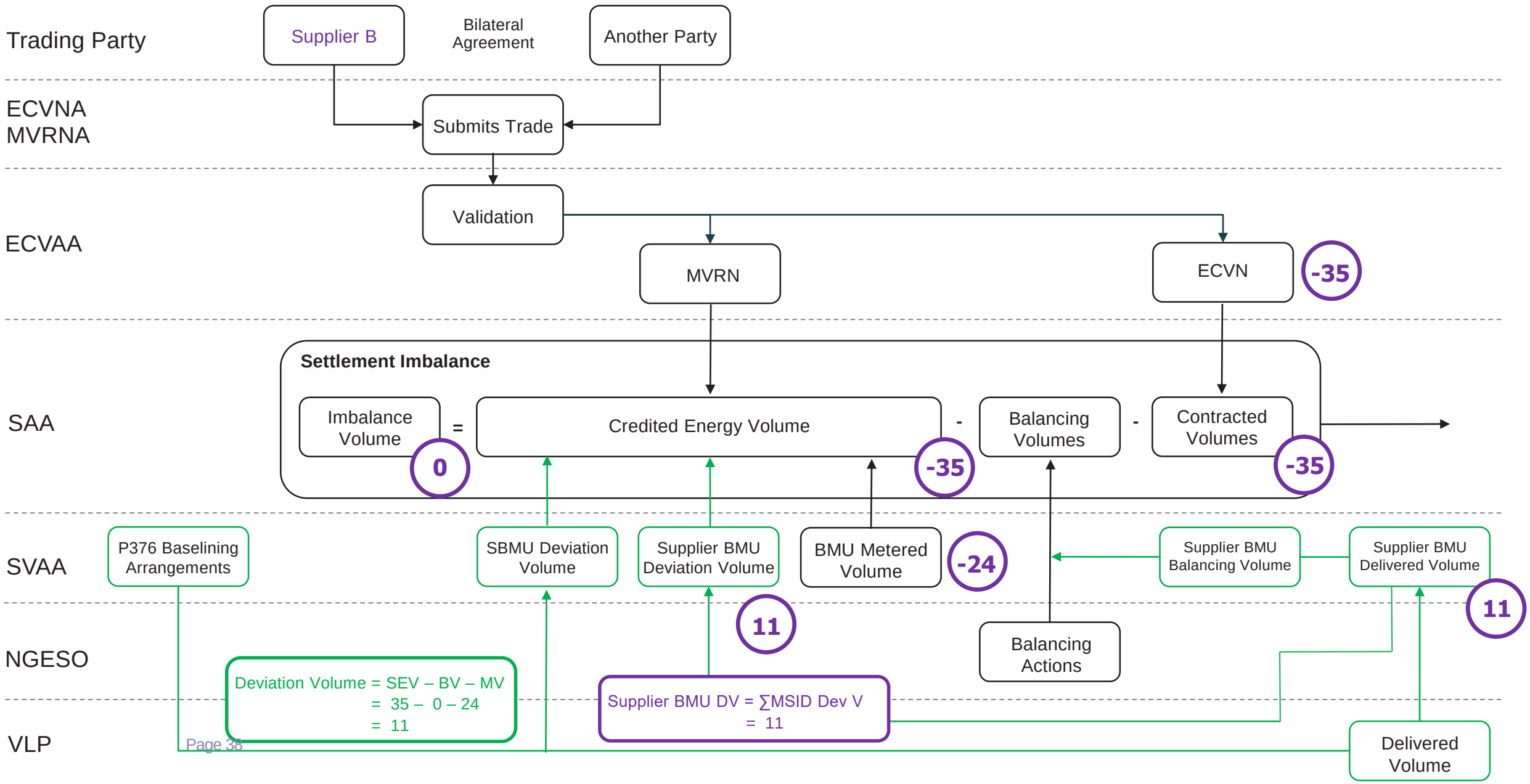


- Pre VLP action site would have consumed 35 MWh
- Post VLP action site consumed 24 MWh
- Deviation equivalent of + 11 MWh on the Total System

Proposed Imbalance Settlement Arrangements: VLP A



Proposed Imbalance Settlement Arrangements: Supplier B

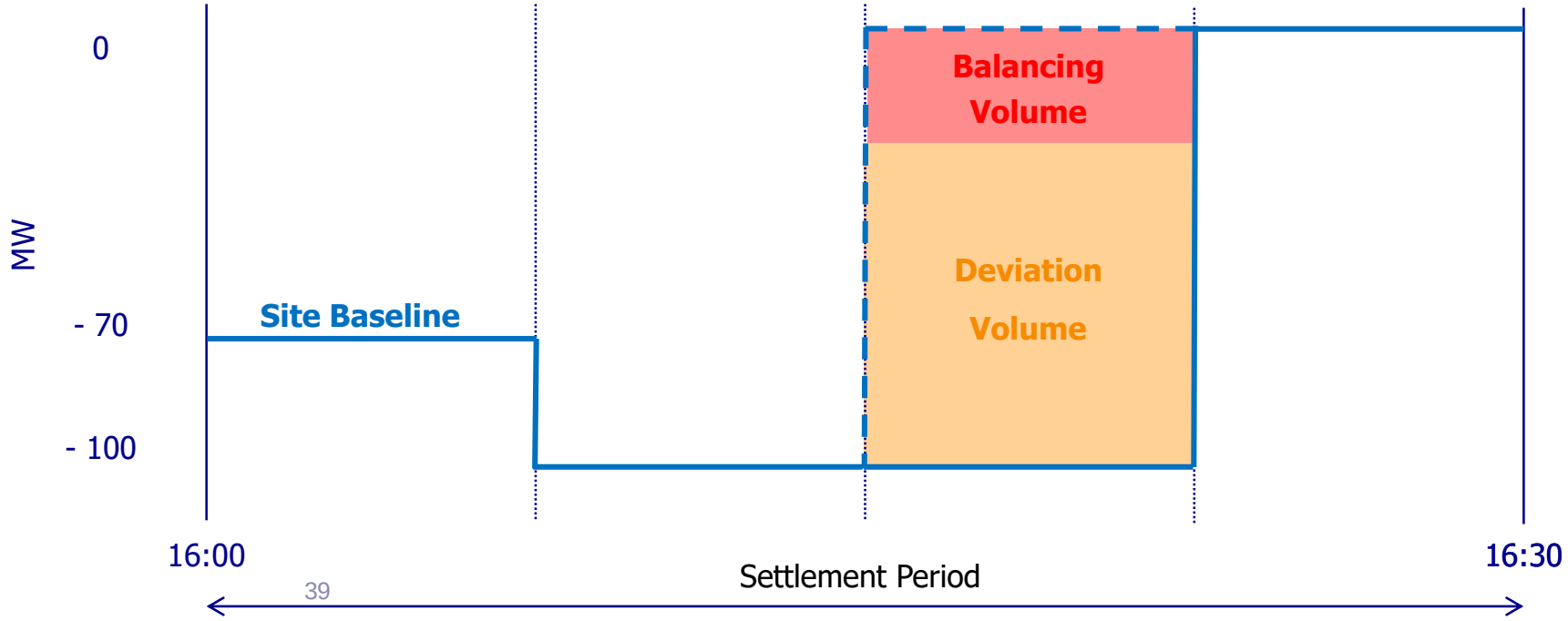


P415 WG03 Simple Worked Example: Early Shutdown - VLP

- VLP B enacts an Early Shutdown (i.e. reduced demand / increased generation at site boundary) in order to fulfil the trade

- The Early shutdown (i.e. a demand response action) effectively results in an additional +11 MWh on the Total System

What if the 11 MWh deviation was actually for a mixture of BM and WM activity?

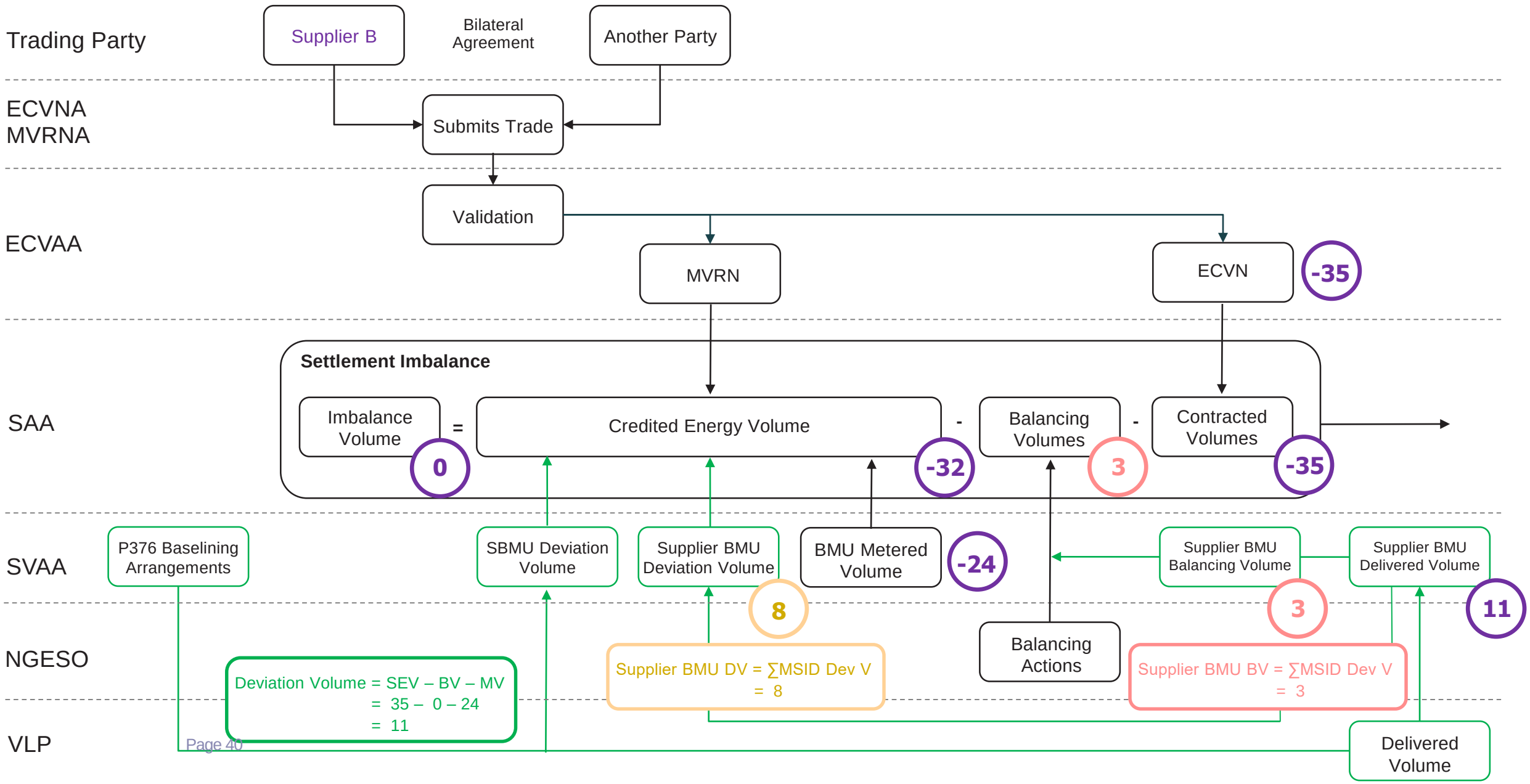


- Pre VLP action site would have consumed 35 MWh

- Post VLP action site consumed 24 MWh

- A Total deviation equivalent of + 11 MWh on the Total System

Proposed Imbalance Settlement Arrangements: Supplier B



Outstanding Issues to resolve

- How does P376 baselining work when the VLP is active in both BM and wholesale market?
  - changes will need to be made to the Non-delivery calculation
- How does P376 baselining work with Delivered Volumes and Supplier adjustments?
  - note that we now have two distinct Supplier adjustments proposed
  - changes will need to be made to split the MSID Delivered Volume in to its components (i.e. Deviation Volumes [wholesale market] and balancing Volumes [BM market])
- How does P376 / P415 work with the current MVRN arrangements?
  - Changes needed to account for VLP Deviation Volumes on any Supplier MVRN in place

Approach to aligning the P415 and P376 solutions

We are expecting the Authority to make a decision on P376 before the P415 Assessment Report is presented to the Panel. This gives us two possibilities:

1. **P376 is approved** 

   Then we will be able to build the P415 proposed solution on top of the approved P376 solution.

   (need to add new event day criteria)

2. **P376 is rejected** 

   P415 solution can either develop:

   - an alternative centrally calculated solution; or
   - A VLP submission solution

Does the WG agree that building P415 around P376 solution is preferential and should be form basis for Solution Summary and BRs?

NEXT STEPS

Next Steps

Elexon to continue to document requirements, wider questions and future topics

WG04 – Proposed Agenda

1. **Principle 3:** Deviation volumes are a measurable commodity similar to traditional 'Metered Volumes' in that they both represent in an import/export MWh deviation to the Total System

    - Look at aligning P376 to P415 in more detail
    - Look at how to split Delivered Volumes into Balancing Volumes and Deviation Volumes

2. **Principle 1:** The registered Supplier at a site where the **customer** has chosen to use a **VLP independent aggregation service** shall receive no Imbalance Settlement benefit nor detriment from such service

    - Look at Supplier adjustments in more detail
    - Discuss whether there is a need for Supplier compensation for lost revenue
        - If so how can this be achieved?

P415: Next Steps

Event	Date
Present IWA to Panel	8 October 2020
Workgroup meeting 1	11 December 2020
Workgroup meeting 2	9 February 2020
Workgroup meeting 3	25 March 2021
Workgroup meeting 4	**W/C 19 April 2021**
Workgroup meeting 5	W/C 14 June 2021
Workgroup meeting 6 -10	W/C 5 July 2021 – October 2021
Present Assessment Report to Panel	10 February 2022
Present Draft Modification Report to Panel	10 March 2022
Issue Final Modification Report to Authority	14 March 2022

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THANK YOU

Ivar Macsween

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