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

P415

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

03 September 2021

Meeting Objectives and Agenda

- **DETERMINE** the most appropriate Supplier compensation mechanism

Agenda Item	Lead
Welcome and meeting objectives	Elliott Harper (Chair)
Summary of 5th Meeting	Ivar Macsween (Elexon),
CBA update	Lewis Heather (CEPA), Workgroup
Supplier Compensation Discussion	Matt Roper (Elexon), Workgroup
Compensation Volumes	Matt Roper (Elexon), Workgroup
VLP Trading Party Credit Arrangements	Matt Roper (Elexon), Workgroup
National Grid Update	National Grid
Next Steps	Ivar Macsween (Elexon)

Meeting Objectives and Agenda

1. **CBA Approach**: Supplier Compensation

   - **NOTE** the Proposer preferred solution and rationale
   - **CONFIRM** approach that VLP liability shall be the proposed solution and whether mutualised compensation by Suppliers is a required variant within the CBA or not; and
   - **CONFIRM** approach that a representative Supplier sourcing cost price shall be the proposed compensation price and that no price variant is required within the CBA

2. **P415 Solution**: Supplier Compensation Volumes

   - **DETERMINE** in principle what volumes used to calculate Supplier compensation.
   - **DETERMINE** whether volumes used to calculate Supplier compensation should include balancing and wholesale market volumes (or not).

3. **P415 Solution:** Further considerations
   - **DETERMINE** the Credit arrangements for VLP Trading Parties.

SUMMARY OF 5TH MEETING

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Summary of 5th Meeting

- On 29 July 2021, the P415 Workgroup met to review and determine which cost-benefit analysis option is most suitable for P415, ahead of presenting this view to the BSC Panel for their consideration.

- CEPA presented five P415 cost-benefit analysis options that outlined the scope, methodology, costs and timelines associated with a range of options that differed in analytical sophistication, outputs and overall impact.

- The group noted that many of the benefits for P415 were well suited to quantification and considered the more sophisticated modelling options to be most suitable for the cost-benefit analysis.

- P415 is a sizeable market change, introducing a new player into it, so worth taking the time to assess thoroughly.

- The Workgroup considered that options 1 ‘High-level CBA’ and 2 ‘Case Studies’ were felt to be unlikely to meet stakeholder requirements for more detailed quantitative analysis.

Summary of 5th Meeting

- Options 1 ‘High-level CBA’ and 2 ‘Case Studies’ were felt to be unlikely to meet stakeholder requirements for more detailed quantitative analysis.

- Ofgem input was sought on the level of analysis they would like to see. They are content to let P415 build the case for making the change or not as the Workgroup sees fit, with more information helpful to make an informed decision on P415.

- Options 5 ‘Market Modelling – Wholesale and Network Impacts’ offers additional benefits to Option 4 ‘Market Modelling – Wholesale Impacts only’ by unlocking analysis of deferred network investment and capacity, providing an opportunity to draw out this argument in support of P415.

- Analysis of CO2 emissions would be most viable under the 4th or 5th option which allow for modelling and believe his would be beneficial to assess via the cost-benefit analysis.

Summary of 5th Meeting

- Group's preference is to explore variants of the P415 solution within the cost-benefit analysis to help them come to a decision, as they believe analysis of the mechanisms is needed to assess their impact on the costs and benefits

- The Workgroup recommends to the Panel by majority that Option 5 'Market Modelling – Wholesale Impacts and Network Modelling' be taken forward for Elexon to tender a cost-benefit analysis.

- The BSC Panel will consider this at their meeting on 9 September 2021, the expectation is that Elexon will then begin procurement activities for the eventual CBA.

CBA UPDATE

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CBA Update

- How to assess the volume of additional aggregated services introduced as result of P415 and how that might change under the two solution variants.

- Two sub options have been developed for modelled approaches 4 and 5 –scenario based assumptions versus ‘bottom-up’ development of inputs/assumptions using bespoke investment model.

- Objective: to discuss with the Workgroup the options for developing an assessment of the additionality of aggregation under the two variants as well as implications.

- Will the Workgroup be able to provide the data and information needed to allow for a ‘bottom up’ assessment?

SUPPLIER COMPENSATION DISCUSSION

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Discussion Objectives

1. **CBA Approach**: Supplier Compensation

- **NOTE** the Proposer preferred solution and rationale
- **CONFIRM** approach that VLP liability shall be the proposed solution and whether mutualised compensation by Suppliers is a required variant within the CBA or not; and
- **CONFIRM** approach that a representative Supplier sourcing cost price shall be the proposed compensation price and that no price variant is required within the CBA

Previous Supplier Compensation Discussions Summary

Clean Energy Package requirements: A Workgroup member with experience operating as a VLP in Europe outlined the Clean Energy Package requirements and how this relates to the question of whether Suppliers would need to be compensated under P415 and, if necessary, who should pay.

Discussion conclusion: Supplier compensation is open to interpretation within the Clean Energy Package but if implemented it must not present a barrier to entry for flexibility.

Workgroup views on Supplier Compensation: Suppliers will be left with a cost from the WM they cannot recover in Retail Market due to VLP action under P415, so the WG believe that Supplier compensation will be necessary.

Workgroup view on appropriate compensation price: The group began to consider options for the most appropriate mechanism to apply Supplier compensation but were unable to come to a firm conclusion, noting it will impact collection and distribution of these funds

P415 Solution Principles

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.

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 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)

Proposers View on Supplier Compensation

- VLP should be liable for Supplier Compensation when Supplier suffers detrimental impact from VLP activity (load reduction)
- Conversely Suppliers should pay VLP compensation when Supplier benefits from VLP activity (load increase)
- Compensation payments to/from Parties should be administered by BSCCo as a BSC Trading Charge
- Compensation should ideally be paid at a cost that reflects a Supplier's sourcing costs
- Supplier compensation should be paid for all VLP activity (i.e. both balancing and wholesale market activity)

Proposers View on Supplier Compensation Liability

The proposer believes the VLP should be liable to pay for Supplier compensation (where they have suffered detriment from VLP activity) as they directly benefit from said activity and account for the costs within their commercial arrangements.

In addition the proposer believes that by making VLP responsible for compensation will incentivize them to act at the right economic threshold. Acting at the 'right' economic threshold will limit market distortions.

In essence at an economic threshold dictates when a Party is incentivised to act (i.e. when it is economically beneficial).

Artificially lowering this threshold (e.g. via subsidies) risks introducing market distortion (i.e. lack of free and open competition in a market) as the Party with an artificially low economic threshold would have an advantage.

Mutualising liability across Suppliers would effectively be subsidising DSR activity (distorting the market) by adding another levy to Suppliers.

It may be that policy makers wish to introduce these subsidies at some point but the proposer believes this is a policy decision and out of scope of this work group as it would create a non-level playing field (i.e. DSR would have an advantage over other Trading Parties) and contradict solution principles 4 (Supplier does not benefit not suffer deficit) and 5 (level playing field).

Proposers View on Compensation Price

In the following slides the proposer refers the following:

R = Supplier Retail price (not including non-commodity costs)
S = Supplier sourcing costs

The difference between R and S is effectively is the Supplier margin

Effect of compensation on VLPs (load reduction)

In each case, just considering 1 MWh that's either consumed as expected or curtailed due to a DR dispatch

	No DR	No compensation	Compensation at retail price R	Compensation at sourcing price S
MWh DR	0			
Benefit from consumption	B			
Payment to retailer	R			
Wholesale and compensation income	0			
Net position	= B – R			
Dispatch desirable when	n/a			

Effect of compensation on VLPs (load increase)

In each case, just considering 1 MWh that's either consumed as expected or curtailed due to a DR dispatch

	No DR	No compensation	Compensation at retail price R	Compensation at sourcing price S
MWh DR	0			
Benefit from consumption	0			
Payment to retailer	0			
Wholesale and compensation income	0			
Net position	0			
Dispatch desirable when	n/a			

Proposers View on Compensation Price

The proposer believes that compensation should be paid at a cost that upholds the Solution Principle 4 (Supplier does not benefit not suffer deficit) and hopes to demonstrate that there are only 2 viable prices to achieve that.

Whilst the proposer believes that whilst theoretically compensation should be paid at the retail price (not including non-commodity costs) it is not a viable solution as the complexity needed to implement such a solution would outweigh the benefit.

Therefore the proposer believes that the only viable solution is to have compensation paid at a price representative of the Supplier sourcing cost. To make efficient use of the WG time the proposer suggests that the sourcing cost methodology be developed by ELEXON and presented to the workgroup after the CBA has been completed.

Supplier compensation scenarios (load reduction)

In each case, just considering 1 MWh that's either consumed as expected or curtailed due to a DR dispatch

	No DR	Corrected and compensated at
MWh DR	0	
Supplier costs	S	
Supplier revenues	R (from customer)	
Supplier profit	= R – S	
Impact on supplier (principle 4)	Supplier receives retail margin (Base case)	

Supplier compensation scenarios (load increase)

In each case, just considering an additional 1 MWh that's consumed due to a DR dispatch

	No DR	Corrected and compensated at
MWh DR	0	
Supplier costs	0	
Supplier revenues	0	
Supplier profit (1 MWh)	0	
Impact on supplier (principle 4)	0 (Base case)	

P415 Supplier Compensation Discussion Summary

- The P415 Proposer's initial preference is for VLP to compensate at some approximation to Supplier's actual cost for sourcing the energy, at a suitable level so Suppliers don't get a windfall gain, as in his view it seems to best fit the P415 Solution Principles.

- An example of this could be some formula based on Futures prices averaged over a long time or Wholesale prices averaged over a long time. Day ahead prices would not be suitable as not reflective of cost that a Supplier would actually buy energy.

- Is there scope for a Proposed and Alternative solution regarding who pays Supplier Compensation and at what level? Do the Workgroup need additional information to create two options for further development?

- If necessary the P415 Proposer is comfortable adopting the above approach as the Proposed solution for the purposes of the CBA, noting that the Workgroup can choose to raise an Alternative.

Discussion Objectives

1. **CBA Approach**: Supplier Compensation

- **NOTE** the Proposer preferred solution and rationale
- **CONFIRM** approach that VLP liability shall be the proposed solution and whether mutualised compensation by Suppliers is a required variant within the CBA or not; and
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SUPPLIER COMPENSATION VOLUMES

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Discussion Objectives

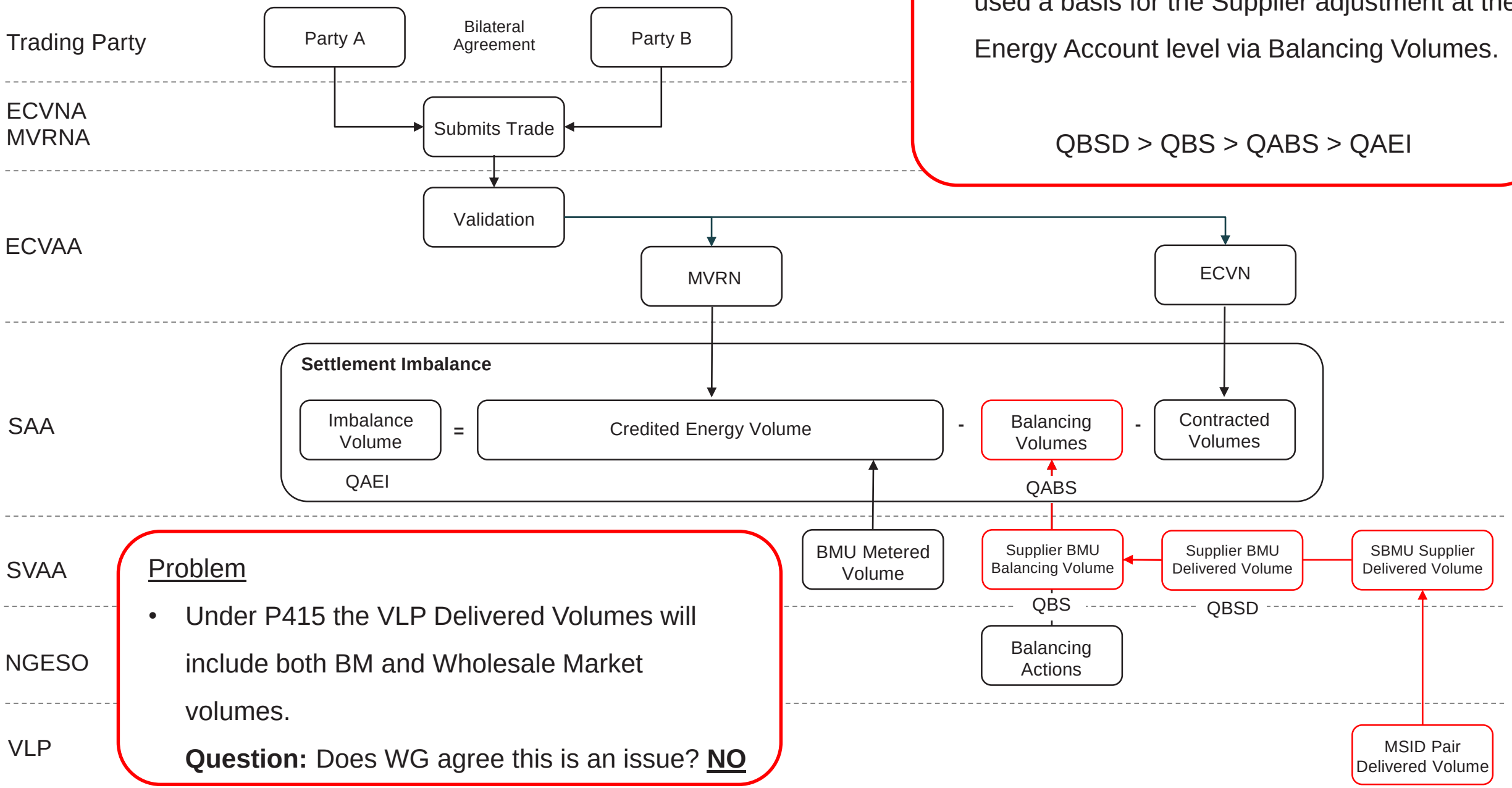
1. **P415 Solution**: Supplier Compensation Volumes

- **AGREE** in principle what volumes used to calculate Supplier compensation.
- **DETERMINE** whether delivered volumes used to calculate Supplier compensation should include balancing and wholesale market volumes (or not):

WG04: P344 Supplier Adjustment Arrangements

- Pre P415 MSID Pair Delivered Volumes are used a basis for the Supplier adjustment at the Energy Account level via Balancing Volumes.

QBSD > QBS > QABS > QAEI



Problem

- Under P415 the VLP Delivered Volumes will include both BM and Wholesale Market volumes.

Question: Does WG agree this is an issue? **NO**

Unintended Consequences?

- Under the WG preferred solution Settlement won't distinguish between balancing and wholesale market volumes contained within the VLP Delivered Volumes.

  Delivered Volumes represent the deviation from 'normal' activity caused by a VLP at a MSID Pair (i.e. site) level. It allows settlement to identify and adjust the impacted Suppliers.

  Delivered Volumes can be thought of as a site level Deviation Volumes where:

  ∑ SBMU Delivered Volumes = Deviation Volumes

- Therefore Suppliers will be compensated for all Deviation Volumes (i.e. both balancing and wholesale market).

- This is a change from the P344 solution will did not include a compensation mechanism.

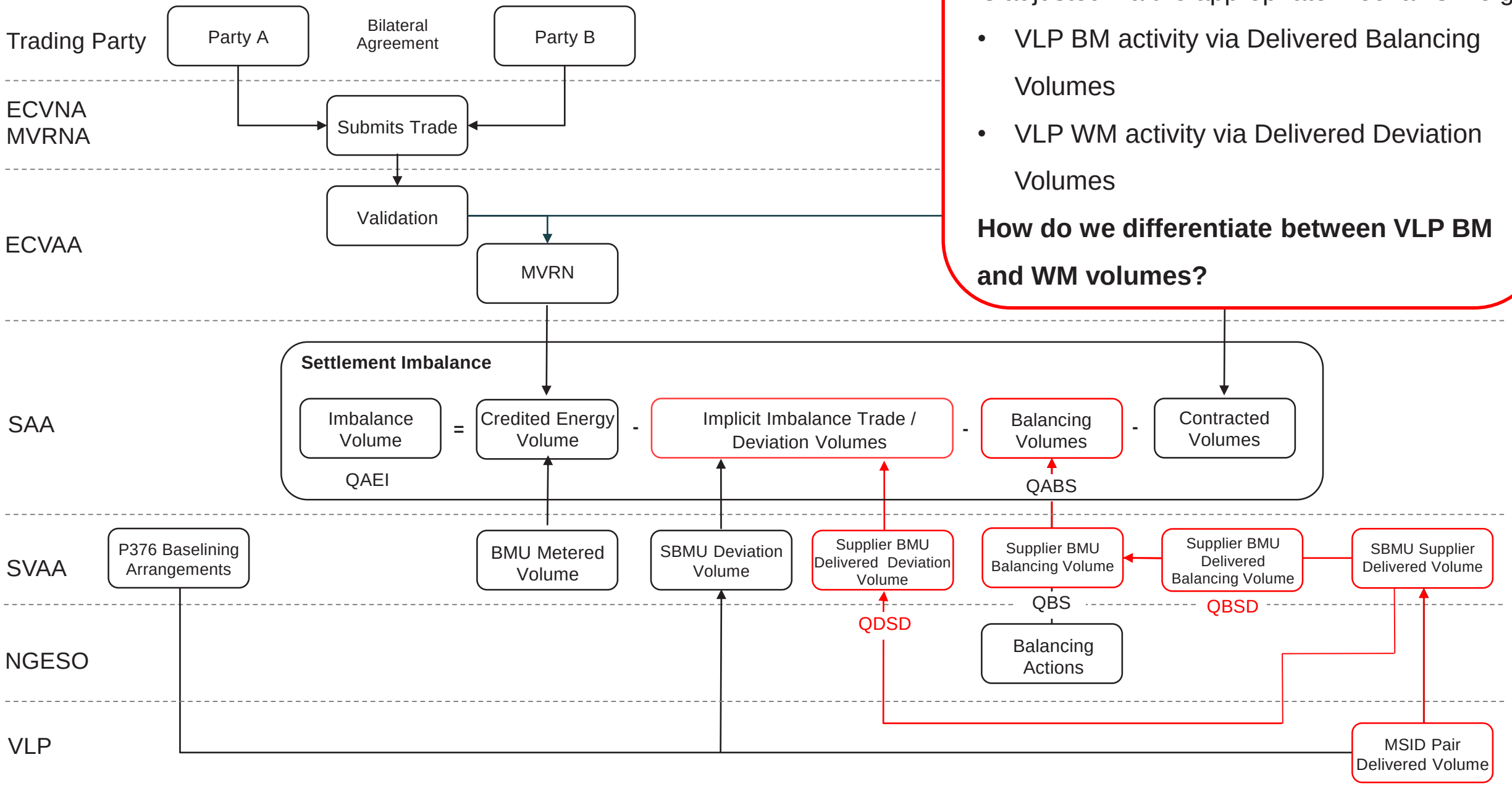
Question: Does the workgroup have an opinion on whether Suppliers should be compensated for one or both of balancing and wholesale market volumes?

Alternate P415 Supplier Adjustment Arrangements

The solution needs to ensure that the Supplier is adjusted via the appropriate mechanism e.g.

- VLP BM activity via Delivered Balancing Volumes
- VLP WM activity via Delivered Deviation Volumes

How do we differentiate between VLP BM and WM volumes?



Alternate Delivered Volume Solution

What information do we know?

1. SBMU BM Volume from the BOA
2. SBMU Non Delivered Volumes
3. We can calculate the physically delivered BM Volume
4. We can calculate the physically delivered WM Volume

Using the above we calculate what proportion of the BMU was BM activity and what was WM activity

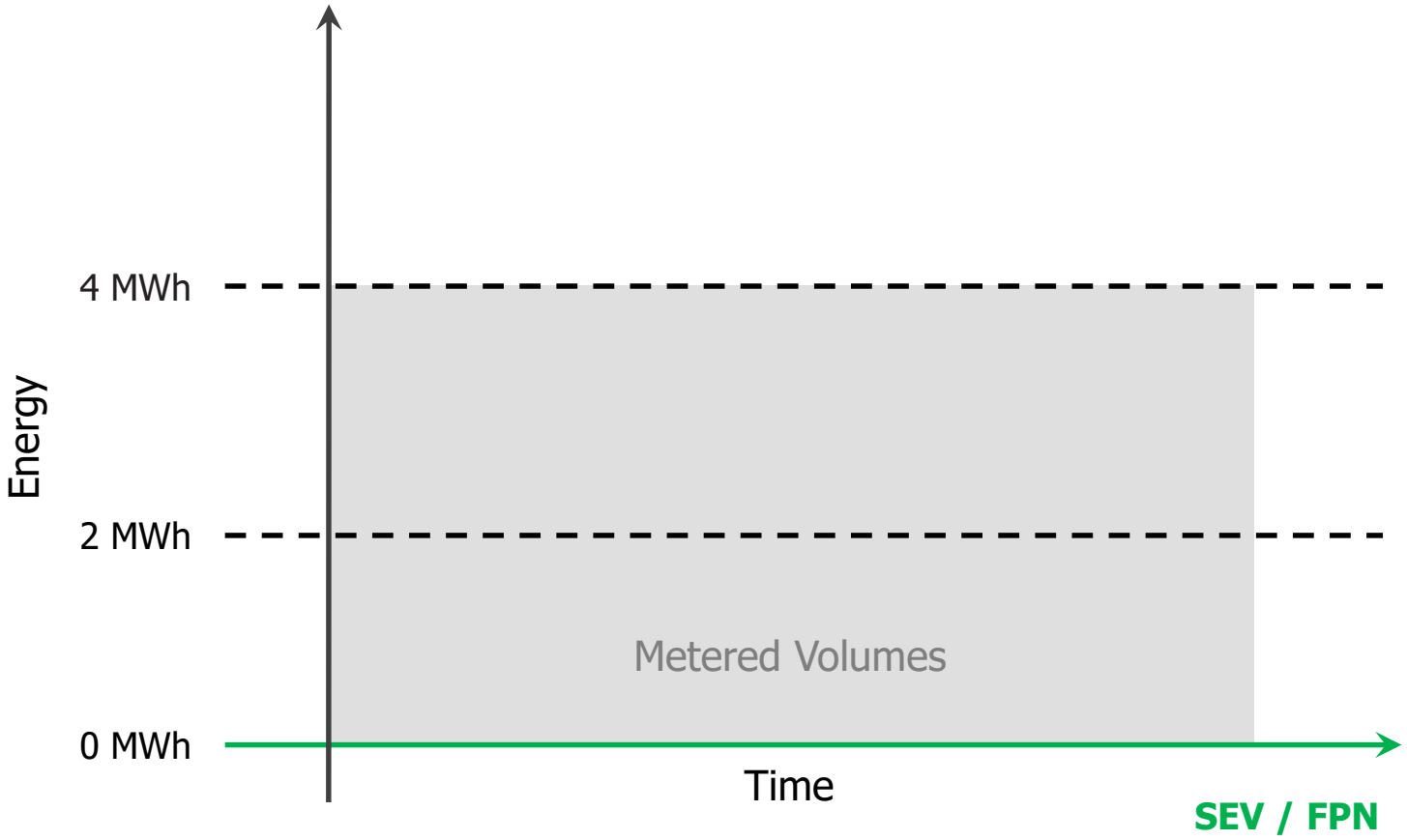
- SBMU WM Proportion = WM Vol / Total Deviation Vol
- SBMU BM Proportion = BM Vol / Total Deviation Vol

<u>This solution assumes that each site within the SBMU proportionally contributes to both BM and WM volumes</u>

P376 Non-Delivery calculation

Consider this scenario again where a SBMU is active in both wholesale and BM market

SEV = 0 MWh QM = 4 MWh BM = 3 MWh and therefore WM = 1 MWh



What do we know?

MWh BOA = 3 MWh

MWh WM = 1 MWh

Total Deviation Volume = 4 MWh

BM SBMU Proportion = 3 / 4 = 0.75

WM SBMU Proportion = 1 / 4 = 0.25

Proposed Delivered Volume Process

Baseline calculated or VLP Submit

MSID Pair	Delivered Volume
1	0
2	0.5
3	0.5
4	3

SVAA Identifies

MSID Pair	Supplier BMU
1	A1
2	A1
3	B1
4	C1

SVAA Calculates

Supplier BMU	Proportion	
A1	= (0 + 0.5) / 4	= 0.125
B1	= (0.5) / 4	= 0.125
C1	= (3) / 4	= 0.75

SVAA Allocates

Supplier BMU	SBMU Supplier Delivered Vol	Supplier BMU Delivered BM Vol	Supplier BMU Delivered DV Vol
A1	= 0.125 * 4 = 0.5	= 0.5 * 0.75 = 0.375	= 0.5 * 0.25 = 0.125
B1	= 0.125 * 4 = 0.5	= 0.5 * 0.75 = 0.375	= 0.5 * 0.25 = 0.125
C1	= 0.75 * 4 = 3	= 3 * 0.75 = 2.25	= 3 * 0.25 = 0.75

Question: How does the workgroup feel about proportional allocation?

Answer: WG felt too complicated and unnecessary and so preferred not to distinguish between balancing and wholesale market volumes

NATIONAL GRID UPDATE

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BSC Credit Arrangements

Why do Parties need to lodge Credit?

Credit Cover is needed because Trading Charges are paid approximately 29 calendar days after a Settlement Day occurs. Over this period a Parties' Credit Cover ensures it has enough collateral to cover these payments in case of default.

How is it calculated?

For each Settlement Period, the Total Energy Indebtedness (TEI) is the sum over the previous 29 calendar days (including the current Settlement Day) of:

- Credit Assessment Energy Indebtedness (CEI) - an estimate of indebtedness for the first 5 days
- Metered Energy Indebtedness (MEI) - calculated indebtedness using CDCA data
- Actual Energy Indebtedness (AEI) - calculated indebtedness using trading charges

BSC Credit Arrangements

Figure 1: The Credit Calculation for non-Credit Qualifying Primary BM Units.

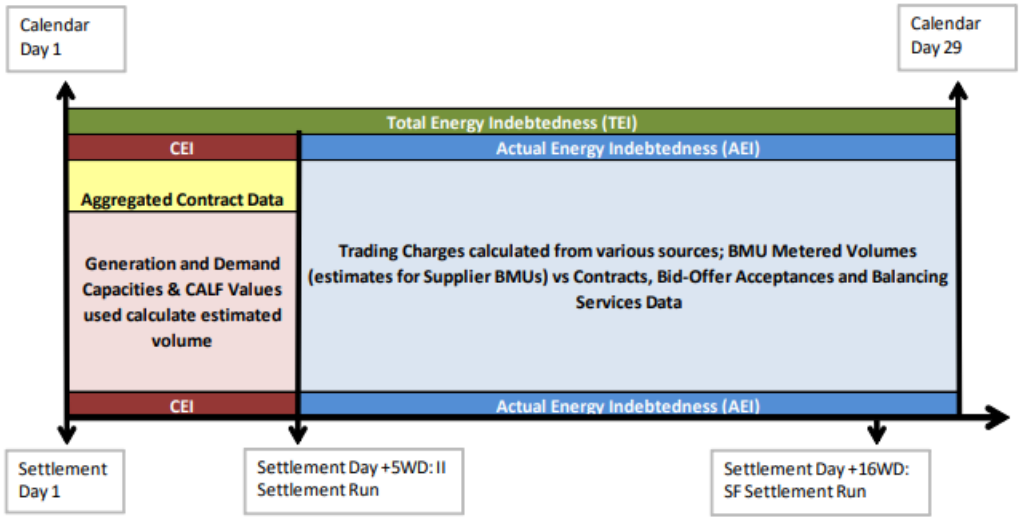
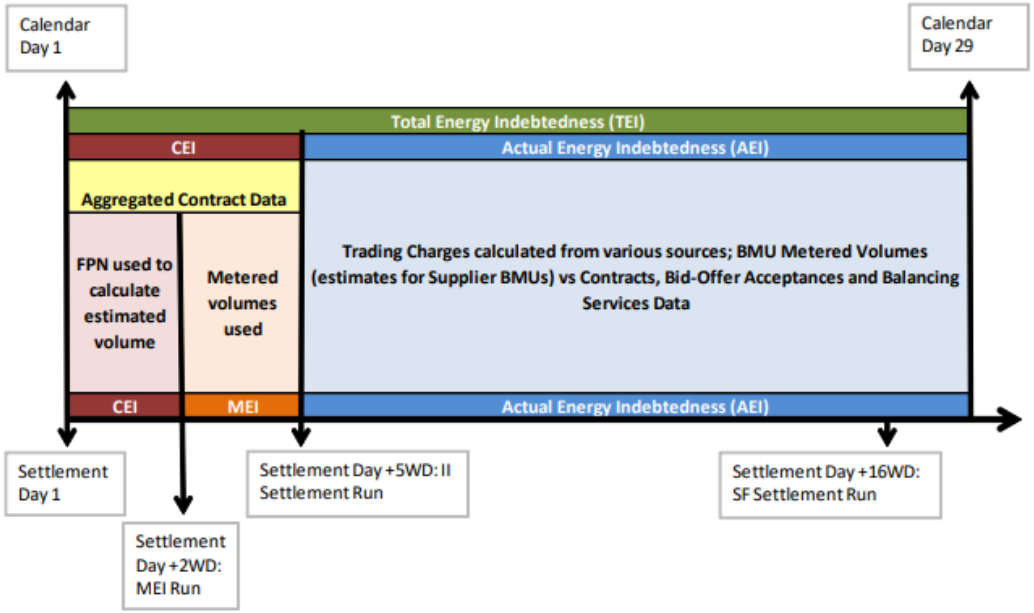


Figure 2: The Credit Calculation for Credit Qualifying BM Units (not including Interconnector BM Units)



What's a Non-Credit Qualifying BM Unit?

As a non-credit Qualifying BM Unit you are required to declare your GC and DC. The GC and DC for each Primary BM Unit is the expected maximum positive and negative metered volume for a single Settlement Period in the BSC Season.

GC/DC and a BM Unit specific load factor (CALF) is used to estimate your metered volume which in turn is used to estimate your CEI.

What's a Credit Qualifying BM Unit?

If the Primary BM Unit is not an Interconnector BM Unit and is required to submit Final Physical Notifications to the System Operator, it can qualify as a Credit Qualifying BM Unit as long as it has:

- A Production Status flag (i.e. it's classed as a generating BM Unit); or
- Exempt Export status;

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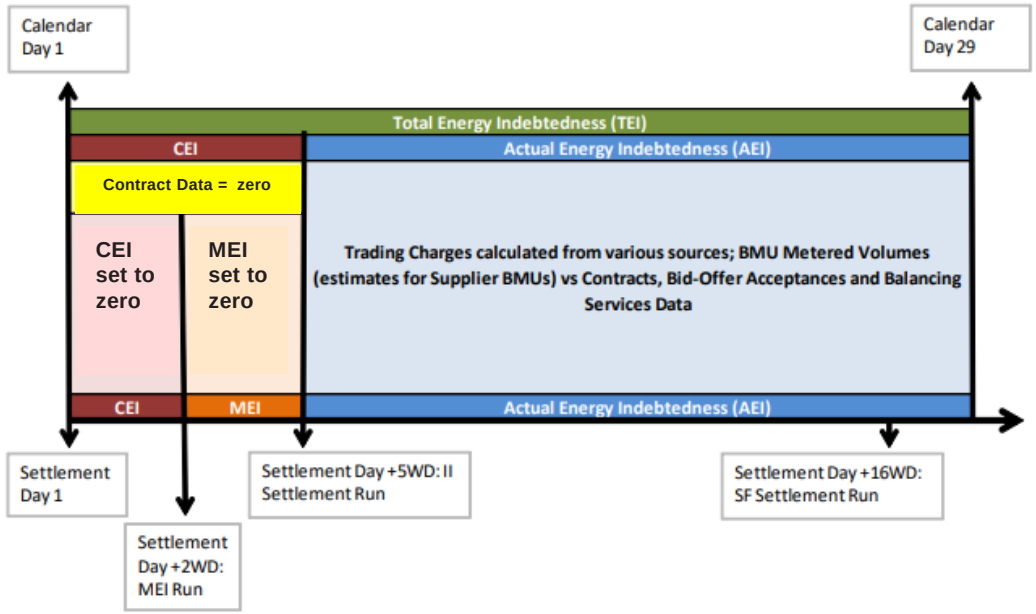
BSC Credit Arrangements

Figure 3: Credit Calculation for Secondary BM Units



What are the current credit requirements for Secondary BM Unit?

As by definition a Secondary BM Unit is not a Primary BM Unit it cannot be neither credit or non-credit qualifying and has its energy indebtedness calculated as below:

CEI set to zero
MEI set to zero
AEI calculated from Trading Charges

This is because the existing VLP role is not a Trading Party and so cannot enter/submit bilateral contracts for wholesale market trades. Currently VLP are Balancing Service Provider (BSP) only

However they are responsible for delivering any Balancing Volumes procured and do have Trading Charges calculated (which like all Trading Charges are paid 29 days after the Settlement Day) and so do accrue debt which needs to be covered in case of default.

Calculating CALF for a Primary BM Unit

To calculate Credit Assessment Credited Energy Volumes (CAQCE) a BM Unit specific Credit Assessment Load Factor (CALF) is applied so that:

CAQCE = GC/DC * CALF

For Primary BM units separate Credit Assessment Load Factors are calculated for week days (WDCALF) and non-week days (NWDCALF) for each BSC Season (Spring/Summer/Autumn Winter) for each Settlement Period.

These are based on historical metered data and are calculated as below:

$$CALF = \frac{\text{average net metered volume for the BSC Season (MWh)}}{\text{maximum metered volume for the BSC Season (MWh)}}$$

NOTE that Parties have the ability appeal calculated CALF values and submit values they believe would be representative of the relevant BSC Season.

CAQCE is then compared against actual contractual volumes to estimate energy indebtedness

BSC Credit Arrangements under P415

Like all Trading Parties a VLP Trading Party will need to lodge credit to cover any accrued debt over the last 29 working days.

So lets look at each part of the

- Credit Assessment Energy Indebtedness (CEI) - an estimate of indebtedness for the first 5 days

  For Primary BM Units CEI estimates metered volumes and compares against contractual volumes. For parity the P415 solution will need to estimated Deviation volumes for Secondary BM Units whose lead party are VLP Trading Parties for comparison against contractual volumes.

- Metered Energy Indebtedness (MEI) - calculated indebtedness using CDCA data

  As SBMU cannot contain CVA Metering System this will continue to be set to zero

- Actual Energy Indebtedness (AEI) - calculated indebtedness using trading charges

  No change needed

Calculating CEI for a VLP Trading Party SBMU

Deviation Volumes are calculated as deviations from forecast/baselined consumption i.e. unexpected behaviour. **How can we estimate sporadic unexpected behaviour?**

Option A

Based on historical deviation volumes and weighted for frequency of activity calculated as below:

$$CALF = \frac{\text{average net deviation volume for the BSC Season (MWh)}}{\text{maximum deviation volume for the BSC Season (MWh)}} * \frac{\text{number of SP active}}{\text{total SP in season}}$$

Option B

No CALF values are calculated and VLP Trading Party submits values they believe would be representative of the relevant BSC Season.

Further Considerations

We need to consider what contributes to Deviation Volumes (i.e. one or both of Balancing Volumes and Wholesale market volumes).

The WG decision regarding Deviation Volumes and whether to separate Wholesale market and balancing volumes will impact a VLP Trading Party CEI.

Should they decide not to separate wholesale and balancing volumes (i.e. a Supplier is to be compensated for both) then this could impact the amount of credit needed to be lodged should the WG decide option A was preferable.

NEXT STEPS

Next Steps

- The BSC Panel will consider the CBA at their meeting on 9 September 2021, the expectation is that Elexon will then begin procurement activities for the eventual CBA.

- We invite the Panel to agree that Elexon submits a competitive tender for a cost-benefit analysis of P415 with Option 5 ‘Market Modelling – Wholesale and Network Impacts’ in line with the Workgroup’s recommendation.

- Following the start of CBA activities, we will need to assess the timetable for future Workgroups and what they would cover.

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	25 May 2021
Workgroup meeting 5	29 July 2021
Workgroup meeting 6	**3 September 2021**
Panel considers CBA Options paper	9 September 2021
Further Workgroup meetings as necessary	October 2021 onwards

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THANK YOU

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