

Issue Report

Issue 106 'Review of BSC Credit Cover Arrangements'

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About This Document

You can find the definitions of the terms and acronyms used in this document in the [BSC Glossary](#)¹.

This document is the Issue 106 Group's Report to the BSC Panel. Elexon will table this report at the Panel's meeting on 14 December 2023.

There are two parts to this document:

- This is the main document. It provides details of the Issue Group's discussions and proposed solutions to the highlighted issue and contains details of the Workgroup's membership.
- Attachment A contains the Proposal Form.



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¹ <https://www.elexon.co.uk/glossary/?show=all>



Not sure where to start?

We suggest reading the following sections:

- Have 5 minutes? Read section 1
- Have 15 minutes? Read sections 1 and 4
- Have 30 minutes? Read all sections
- Have longer? Read all sections and the annexes and attachments

Background

The Russian invasion of Ukraine caused significant disruptions in the global energy market, leading to increased volatility in energy prices. Additionally, the aftermath of the COVID-19 pandemic resulted in many participants in the energy market, particularly Suppliers, defaulting on their obligations as a result of extreme system prices. This accumulation of debt, totalling around £70 million over the last five years, raised concerns about the adequacy of Credit to protect the market from Supplier failures without imposing excessive burdens on market participants.

To address these issues, the Credit Committee proposed a review that would explore diverse perspectives and consider both incremental changes and more substantial revisions to Credit arrangements. Exelon initiated [Issue 106 'Review of BSC Credit Cover Arrangements'](#)² on January 13, 2023, with the goal of re-evaluating the objectives of Credit Cover arrangements and assessing their effectiveness. The review aimed to identify areas for improvement through a comprehensive end-to-end evaluation, including compliance and its implications.

The initial scope of Issue 106 encompassed three main areas of inquiry:

- the necessity for Credit Cover and an examination of current arrangements and their pain points;
- the calculation of Indebtedness and the appropriate methods for lodging Credit; and
- considerations related to compliance, enforcement and risk mitigation.

For the first Meeting, Exelon presented the final scope, around five work streams:

1. What should Credit be used for?
2. Data and timeframes
3. Fairness and equality
4. Impacts of providing Credit Cover
5. Communication and Credit Governance

Conclusions

After conducting a thorough review of the Credit Cover process through a series of five meetings in 2023, the Issue Group reached a consensus that two Modification Proposals should be raised:

- The development of a new Credit Cover Calculation (to be implemented after the go-live date of the Market Half-Hourly Settlement Programme); and
- To modify the Credit Default process by delaying the rejection/refusal of any ECVNs & MVRNs after a Party has entered authorised Level 2 Default – the earliest we expect this to be raised is the first quarter of 2024.

As Exelon cannot raise Modifications and these proposals are not suitable for the BSC Panel to raise (as they are likely to impact BSC Objectives beyond efficiency, which is the normal scope for Panel raised Modifications), we invited Issue 106 members to raise these

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² <https://www.exelon.co.uk/smg-issue/issue-106/>

changes. Interest has been expressed by two Parties to raise the two recommendations. We will work with them to progress the proposals, whilst playing critical friend.

2. Background

The Russian invasion of Ukraine destabilised the world's energy market, raising and creating high volatility around energy prices.

Added to the late consequences of the COVID-19 pandemic, many BSC Parties (particularly Suppliers) defaulted on Imbalance Charges, leaving an accumulated mutualised debt of circa £70 million over the last five years. That raised the question of whether Credit was sufficient to protect the Market from Supplier failure while not being an undue onerous burden on market participants.

The Credit Committee, concerned about the rising Credit Assessment Price (CAP) and the consequential impact this would have on Trading Parties required credit levels, suggested that the review should:

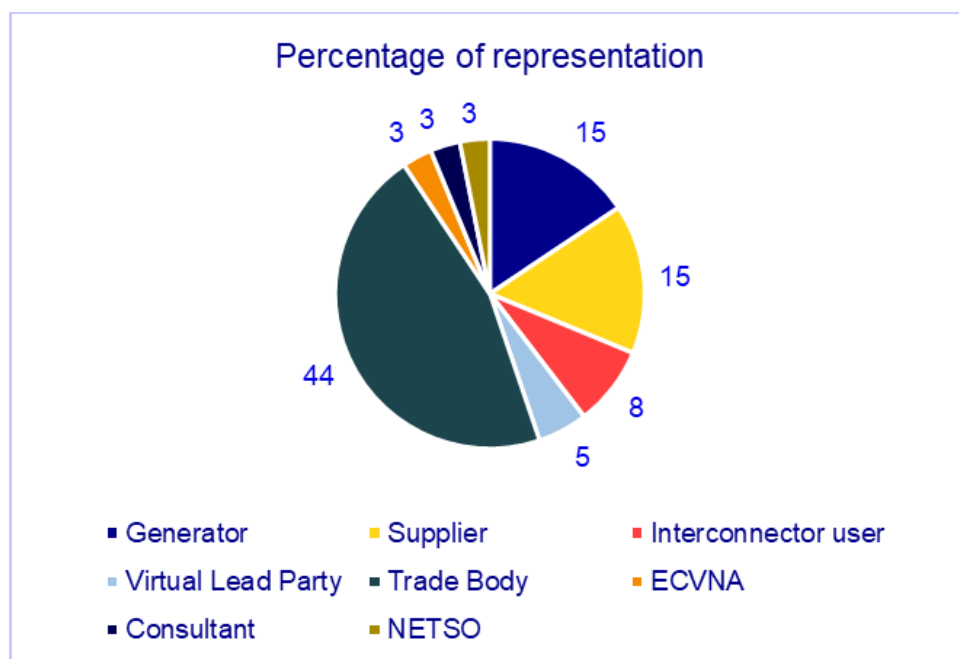
- look to gain diverse views and look at what other codes are doing; and
- discuss both revolutionary changes to Credit arrangements as well as quick fixes. The proposed issue group would balance any need to prioritise changes to the existing Credit Cover arrangements and work to evaluate options for future fundamental changes to these arrangements.

Following this request, Elexon raised Issue 106 'Review of BSC Credit Cover Arrangements' on 13 January 2023. The aim was to re-evaluate what the Credit Cover arrangements should achieve and whether they are achieving that goal. The idea was to identify areas for improvement by a complete end-to-end review, including compliance and implications thereof.

The scope included three main areas:

- Why do we need Credit Cover? Current arrangements and pain points.
- How is Indebtedness calculated? How should Credit be lodged?
- Compliance, Enforcement and Risk Mitigation

Before the first meeting, Elexon sent a survey to gather information about the entire process and its pain points. It received 22 answers. The table below shows the Industry representation of the respondents.



The survey had nine questions:



What is the Credit Committee?

The Credit Committee (CC) is one of six committees established to support the BSC Panel in fulfilling its various duties. It is responsible for all matters under the Balancing and Settlement Code (BSC) that relate to the Credit Assessment Price (CAP).

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1. Conceptually, what do you believe the purpose of lodging Credit Cover should be, and what should it cover? (For example, should it cover all BSC charges, bad debt, be based on risk, only cover a certain timeframe etc.)
2. In your view, should there be a limit to the amount of debt that is recovered through mutualisation, and if so, what should that cap be?
3. How does your organisation use the credit data published on the Elexon Portal?
4. What impact does lodging credit cover collateral have on your organisation? (Including the impact on capacity to trade/operate)
5. In your view, what Credit Cover arrangements would you like to see improved? (Please provide as much detail as possible to help us understand your answer)
6. Do you have any comments/thoughts around the processes for arranging and lodging Credit?
7. What are the good, and not so good points about other industry Code's Credit processes?
8. Do you have any comments around the BSC Credit cover timescales? Both in terms of lodging collateral and the Credit Default timeline.
9. Do you have any further thoughts/comments that you would like to add in relation to your answers, the process, or the Issue 106 proposal form?

Through the survey, Elexon obtained valuable feedback regarding the Credit Cover arrangements, which it fed into the Issue Group assessment. The main identified themes were:

- Calculation
 - How Indebtedness is calculated. The main problems were with CAP, Credit Assessment Load Factor (CALF), Metered Energy Indebtedness (MEI), Credit Assessment Energy Indebtedness (CEI, specially the use of Generation and Demand Capacity (GC/DC) for non-credit qualifying BMU's)
 - Party's credit risk according to the party's role and past behaviour
- Timescales
 - Credit cycle: what is the period covered? And timeframes to withdraw collateral (MEA)
- Communication
 - When/ how Default is communicated
 - Enforcement

For the purposes of this Report, the terms Workgroup and Issue Group are used interchangeably.

3. Issue Group's Discussions

The Issue Group meetings were held between February and November 2023. They were well attended from a variety of Trading Party roles, ranging from Generators and Supplier to non-Elexon people in attendance.

During the first meeting, Elexon reviewed the Credit Cover arrangements and the history of related changes. Elexon proposed five work streams to structure the review:

1. What should Credit be used for?
2. Data and timeframes
3. Fairness and equality
4. Impacts of providing Credit Cover
5. Communication and Credit Governance

The second meeting was held on 23 March 2023 with 18 external attendees. During this meeting, Elexon presented a new Credit Cover calculation, a proposal to modify the Minimum Eligible Amount (MEA) Process, a proposal to modify the Level 2 Default process.

The third IG meeting was held on 15 June 2023, and had 21 external attendees. The main objective was to refine the proposed solutions by asking the IG members about their preferred options. Elexon presented a mechanised solution for the CAP, and a refined solution for the Level 2 Default process.

The fourth meeting was held on 15 August 2023, and 11 workgroup members participated. Elexon presented a 'looking forward' aspect for the Credit Cover calculation. Elexon proposed to predict and calculate some values (like the BM Unit Metered Volume, QMij) used in the Trading Charge calculations. The aim was to estimate Trading Charges for the days between a Party entering liquidation and their departure from the BSC. In almost all historical cases it has been Suppliers that have been in this situation and they cannot leave the market until a Supplier of Last Resort (SoLR) is appointed by the Authority.

During meeting four, Elexon also proposed using collateral to cover unpaid Trading Charges. The amount of collateral would be determined by creating Credit Risk Profiles based on certain credit/payment criteria and would apply to all Parties. As another option, Elexon proposed modifying the Default threshold percentages according to the Party's risk profile.

The fifth and final meeting was held on 13 November 2023, with 14 external participants. Elexon started by summarising the previous meetings and discussions. Afterwards, the group voted on which of all the proposals should be presented as the group's recommendations.

This Issue Report is organised according to the five work streams. It arranges topics not based on the specific meetings where they were discussed, but instead groups them to facilitate a cohesive discussion across all work streams.

1. What should Credit be used for?

The Issue Group engaged in a detailed discussion about how far Credit should extend in covering Trading Charges that are accumulated during a default event. The aim was to agree on the principles upon which the credit process should be based.

Elexon explained the main points of the Credit Cover arrangements and how it has not fundamentally changed since the methodology has always used Settlement data to reflect outturn Trading Charges.

The Issue Group discussed the different estimated factors involved in calculating indebtedness. The CEI and MEI factors are highly impacted by Annual Holiday Periods. CEI is predicated on assumptions about volumes, which, for certain technology and/or Party

types (e.g. renewable technologies and demand response), can be far from the actual volumes involved. The particular pain points noted by the IG were the Credit Assessment Load Factor (CALF), and Generation and Demand Capacity (GC/DC), which are both based on the volumes experienced in the same season the previous year e.g. autumn 2023 CALF and GC/DC volumes are based on actual volumes in autumn 2022³.

In the case of a wind Generator, for example, the volumes generated will vary due to meteorological fluctuations from one day to the next. This means that what was generated on the same day last week is not an accurate prediction of what will be generated this week. This is the same when comparing to the same time period last year i.e. last year's wind levels will be different to this year's, and so the generation volumes will not resemble each other but, under existing arrangements the GC/DC and CALF assume the wind will blow the same this year as it did last year.

MEI only applies to Credit Qualifying BM Units (and some others) but not all BSC Parties and is based on contracted volumes as a proxy for metered volumes, but not an exact replication of the net position at the Boundary Point as they still do not consider Balancing Market (BM) actions.

CEI and MEI are MWh volumes which are then multiplied by the CAP, which itself is an estimate for market values, to determine an amount in Pounds (£) that Credit Cover shall equate to.

As well as inaccurate CEI and MEI (See Appendix 3 for examples), Credit Cover requirements are also impacted by the differing length of weekends and holidays, the minimum amount of Credit Cover required fluctuates. Elexon clarified that Trading Charges are not actually included in Credit Cover calculations until five WD after a Settlement Period when Actual Energy Indebtedness (AEI) starts to be used (AEI is the sum of seven Trading Charges (TC) described in further detail in [BSC Section T](#)⁴).

The Issue Group (IG) members expressed varied opinions on what Credit Cover should be used for, ranging from covering 'everything' to focusing on 'open exposure for each participant' or 'Trading Charges'. The group also discussed the idea that Credit Cover should extend beyond Trading Charges to also mitigate the **risk of default**. They highlighted the issue of debt accumulation by a party until a SoLR is appointed, leading to the mutualisation of this debt.

An IG member voiced the perspective that Credit Cover's purpose is to protect all Parties from the defaults of others. They noted that, until the recent energy crisis, the system effectively prevented the mutualisation of significant debts from large firm failures. However, mutualisation could lead to undesirable behaviours. They emphasised the need for a balance between preventing failures and demanding excessive Credit Cover.

The idea of a 29-day Credit cycle was questioned by an IG member, who suggested shorter cycles could reduce the amount invoiced and lower default risks. Elexon responded that the current Funds Administration Agent (FAA) requires a 29-day period. However, the upcoming Market-Wide Half Hourly Settlement (MHHS) is planning to modify these timelines, enabling shorter Settlement Runs. Yet, as another WG member pointed out, this could also increase market volatility.

New Credit Cover Calculation

Considering the feedback on the process' pain points⁵, Elexon presented a new calculation for calculating the minimum amount of Credit Cover required. The proposed new Credit

³ The detailed analyses presented to the group can be found in the Appendix 2

⁴ <https://bscdocs.elexon.co.uk/bsc/bsc-section-t-settlement-and-trading-charges>

⁵ I.e. using data from a year ago to predict current behaviour does not work well in a volatile market for non-traditional market participants. Also, the current process assumes that the generation/consumption is the same in every Settlement Period, every day for the month, the only change being that there is a Working Day and a Non-Working Day figure.

Cover calculation (NCCC) is based on Trading Charges (TC), which themselves are based on Metered Volumes and Balancing Data. Almost all of the data in the TC calculations is already available on the same Settlement Day or 1WD after. The main thing missing would be Metered Volumes, and given the introduction of the Load Shaping Service (LSS) as part of the Market-Wide Half Hourly Settlement (MHHS) Programme making prediction more accurate, the NCCC is designed to work after MHHS has been fully implemented i.e., after MHHS Milestone Sixteen (M16), planned for 7 December 2026.

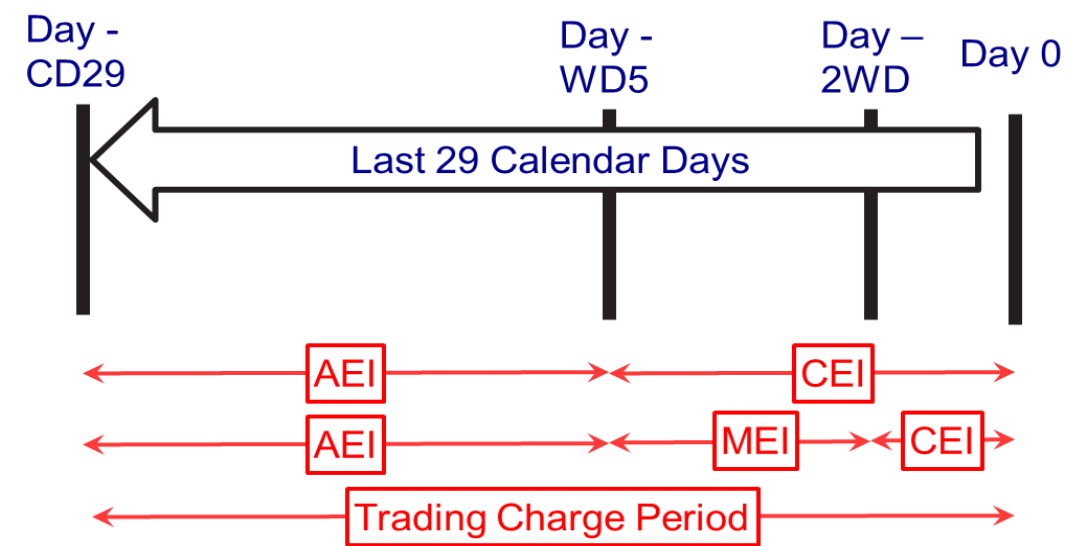
Elxon further explained that this initial timescale would mean that there was scope to de-conflict system development/changes from MHHS development to some extent. Additionally, Elxon were keen to point out that their proposal was a high-level proposal and further work would still be required on technology and Party type specific elements of the calculation to ensure it is fair and equitable for all BSC Parties.

Existing calculation

$$\text{Credit Assessment Energy Indebtedness (CEI)} + \text{Metered Energy Indebtedness (MEI)} + \text{Actual Energy Indebtedness (AEI)} = \text{Total Energy Indebtedness (TEI)}$$

The CEI is used to determine Credit Cover for 5 WD following a Settlement Period. Where MEI is applicable, it is used from 2 WD to 5 WD. After 5 WD, AEI is used.

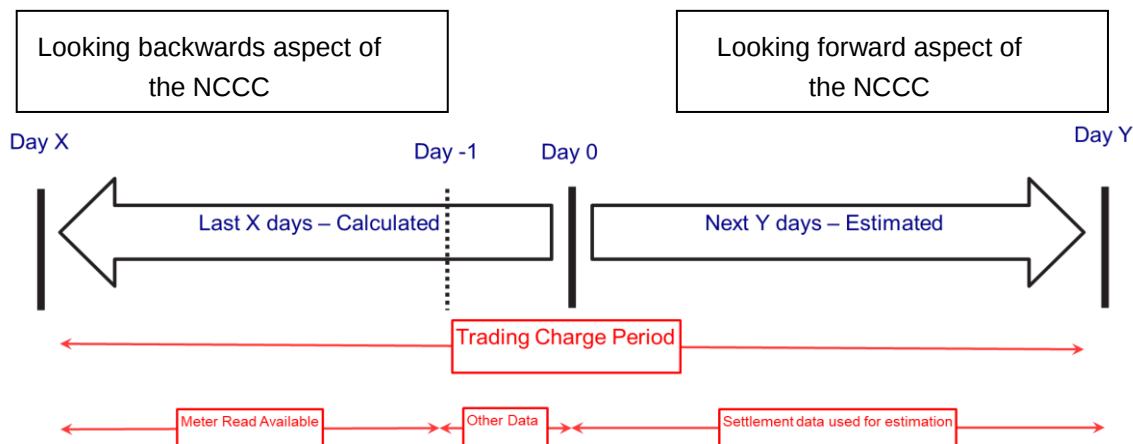
This is shown in the diagram below



Proposed calculation:

The solution proposed by Elxon consisted of two parts: a backwards looking aspect; and a forward-looking aspect. The backwards looking aspect is described in the next section and the forward-looking aspect further down.

$$\text{Trading Charges from previous } X \text{ days} + \text{Expected Trading Charges for next } Y \text{ days} = \text{Credit Cover}$$



In this solution, the concepts of CEI, MEI, AEI and TEI will not exist, and instead Trading Charges will be the sole component of the Credit Cover calculation.

Background

The seven Trading Charges that are used to determine Credit Cover (the AEI part of the existing formula) are listed below, with a brief description of each:

1. Daily Party BM Unit Cashflow
Balancing Volumes adjusted for losses multiplied by price summed over a day for each Settlement period in that day
2. Daily Party Non-Delivery Charge
BM Unit Volumes adjusted for losses multiplied by non-delivery charges adjusted for System price
3. Daily Party Energy Imbalance Cashflow
Delivered Volumes and Balancing Volumes, adjusted for Losses and SBMU non-delivery minus Energy contracts, combined with Contract Volumes transfers – all multiplied by System Sell Price
4. Daily Party Information Imbalance Charge
BM Unit Volume adjusted by FPN Volumes and Bid and Offer Volumes and non-BM Volumes, but all time zero, so Information Imbalance Charge is always zero
5. Daily Party Residual Settlement Cashflow;
BM Unit Metered Volumes, adjusted by Balancing Services Volumes and Reallocations, multiplied by combination of various cashflows combined
6. Daily Party RR Cashflow;
RR Activation Volumes adjusted by RR Activation Price
7. Daily Party RR Instruction Deviation Cashflow
RR Activation Volumes, adjusted by activation prices and Bid/Offer differences compared to the Deemed Standard Product Shape

Each of the seven TCs is comprised of a different formula, but there are some of the same elements in many formulas. The different components and element of the formulas can found in the Appendix 3.

The tables in the Appendix show that the data for TCs is available on WD+1 as initial volumes and all the other components are available same day, apart from QMij.

Looking backwards aspect of the NCCC:

Given that the TCs can be used from WD+1 (we will refine this further below), Elexon initially proposed that the seven formulae above should be used from WD+1 and that the IG should give their views on how best to derive a proxy value for Metered Volume (QMij). Elexon proposed three different options for estimating Metered Volumes (QMij) on the Settlement Day:

1. Proxy for Meter Reads using a rolling average – the actual Metered Volume (QMij) for X days prior would be averaged to give a proxy value, the value of X would need to be determined later and whether it would be the average of the same Period each day, or all Period over X days would also need to be determined later.
2. Dynamic GC/DC and/or CALF, with the alternative variation of Lead BM Units submissions – rather than using values from the same season of the previous year, we would use data from the previous week/month/quarter, but the existing methodology to determine a proxy for Metered Volume (QMij). Alternately, the Lead Party for each BM Unit could submit what they think the GC/DC and CALF value should be.
3. Estimated Trading Charges – similar to option one, rather than using an estimated value for Metered Volume (QMij), we would estimate the TCs for that entire day based on previous X days TCs.

An IG member noted that any solution too dynamic would need Parties to be able to react accordingly and put in place a cash-intensive approach to Credit Cover.

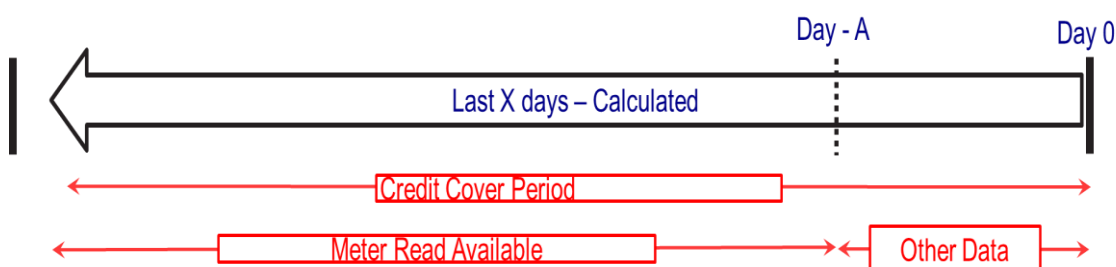
It was also noted that some solutions rely on price averages, which does not respond well to shocks. Therefore, there is need for a buffer to respond to shocks and reduce the risk of mutualisation.

Between 'Day -1' and 'Day X' we will use existing calculations for Trading Charges – an amount in Pounds Sterling (£).

Between 'Day 0' and 'Day -1', the IG agreed to use average meter reads as proxy for BM Unit Metered Volume (QMij) for calculating Trading Charges between Day 0 and Day -1.

From the options presented, the WG voted to use a Proxy for Meter Reads as the solution to be developed (option 1 above).

During the Final IG meeting, Elexon proposed a refinement to the solution. Instead of:



Elexon proposed:

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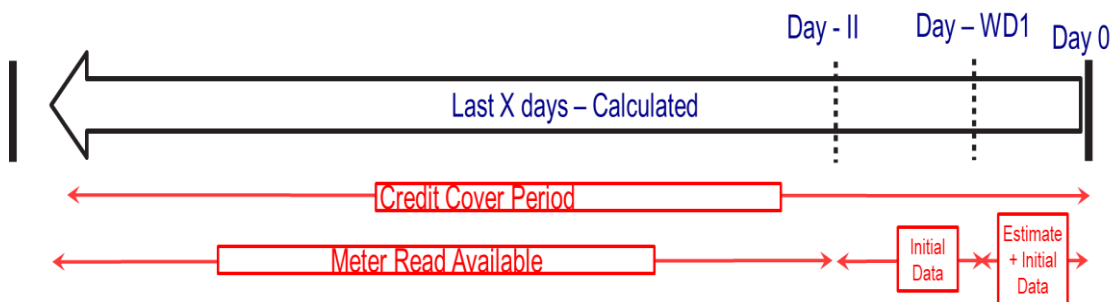
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With this refinement, we would still estimate QMij upto WD +1, but we would use the initial data between WD + 1 and the Initial Settlement Run (II), and the data available at II thereafter. The reason for this is that until the II run, we only have Initial SSP and ‘raw’ Metered Volumes as Parties have the option to appeal and refine Settlement data, therefore, the data available before the II run may contain errors, and rather than carry errors forward from WD + 1, we would essentially check and update once II data is available. The IG supported this proposal, subject to further development and refinement for different Party and technology types.

Elxon also proposed that ‘Last X days’ should remain at 29 Calendar Days for want of an argument to change it anyway. The IG were agnostic on this point and it remains to be resolved during the subsequent Modification.

Looking forward aspect of the NCCC:

Within the feedback received, some Parties manifested their concern about the days between Defaulting and Market Exit (SoLR⁶ appointed). It takes between seven and 14 days for Ofgem to appoint a SoLR, and the defaulting Party accumulates debt that is mutualised and paid by non-defaulting Parties.

The looking forward aspect of the NCCC aimed to collect enough collateral to cover any debt after Day 0.

After reviewing the methodology, Elxon proposed to predict and calculate some values (like the BM Unit Metered Volume, QMij) used in the Trading Charge calculations. The aim is to estimate Trading Charges for the days between a Default and when an administrator is appointed by Ofgem.

The Issue Group (IG) noted that in this case, the SoLR procedure, applies only to Suppliers, and that it is not possible to accurately apply the same approach to generators as it is not practical to predict BM Unit output due to weather conditions, bid/offer activity etc. Also, Elxon may not hold liability to retain collateral looking forward.

Elxon reminded the IG that the aim is to reduce mutualisation, which was highlighted as one of the main Issues to resolve. It was discussed that the solution may be developed only for Suppliers, or that maybe, mutualisation should be covered only among Suppliers. It was also explained that while we may take different approaches to determine some of the values needed for the Trading Charges calculations, the calculations themselves wouldn’t change. For example, where a Generator would no longer generate, their value of QMij would be Zero.

For all the different values to estimate, Elxon proposed four solutions:

1. Value in ECVNs and MVRNs in place before entering default and/or updated post-default;
2. Base on Demand Disconnection process –using an average, in the same way as we would if there is a Demand Disconnection event, the benefit being that this is an

⁶ The Supplier of Last Resort process is when Ofgem directs any gas or electricity firm to take on a failed supplier’s customers. <https://www.ofgem.gov.uk/news-and-views/blog/how-youre-protected-when-energy-firms-collapse>

established process already used in Settlement to determine a value of QMij, and ergo could apply equally to this proposal -the values used for the calculation e.g. the same day for the last 13 weeks;

3. Estimated data from LSS (SVA) and CDCA (CVA) – the same data would be used for Settlement purposes (including inputting into Trading Charge calculations) in the event of a meter read being missing; and
4. Combination of all of the above.

Another IG member proposed an alternative suggestion to the whole 'next Y days' approach: reducing the 80% /90% thresholds for Level 1/2 Default.

An IG member noted that if the end goal is to reduce the chance of Suppliers causing mutualisation, and that the biggest cause of that is the 10 days from default until market exit, then it would be better to work on getting those 10 days reduced rather than focusing on Credit Cover. Elexon explained that it does not have any enforcement power and that it is a matter for Ofgem, but it could be included in Elexon's engagement with them.

Another proposed solution by an IG member was using the headline values of recent actual Trading Charges (AEI) to estimate Trading Charges for the next Y days.

Elexon proposed to vote between the options, but the IG considered it was better to discard this topic in proposal 1 for now and think of a different solution altogether, mainly because it needs extensive work to refine the solution and it would fall outside the scope of Issue 106.

Total Energy Indebtedness

Elexon proposed a short term solution for CEI that looked to EAC data (and LSS data once available) instead of GC/DC and CALF values as proxies for meter reads. However, the IG noted that the solution might present similar problems to those from the current arrangements and that the focus should be on developing a solid long-term solution.

Data and timeframes

The WG discussed the different data each type of organisation uses, noting the considerable differences between Non-Physical Traders, Generators and Suppliers. It was also stated that estimated data should be avoided when possible.

A WG member noted that DC/ GC factors do not account for batteries. Currently, a battery with DC bigger than GC is treated as a Supplier, which does not incentivise generation or renewable assets to act efficiently. Therefore, the WG noted the potential value of having different Credit arrangements for different Party types and different technologies as well.

A WG member noted that reducing the Settlement Final (SF) Run timeframe would lessen the need for estimated data. Elexon therefore asked if developing a solution around being – for example- invoiced every seven days would be something the WG would like to explore, and there was a general agreement on it. However, this may impose some difficulties for those parties receiving most of their income at the end of each month.

A WG member asked whether samples from smart meters users could not be used as indicative real-time data. For instance, instead of estimating volumes, Elexon could use samples from different profiles. Elexon also explained that the new Load Shaping Service (LSS), being developed under MHHS, will only be good for Supplier Volume Allocation (SVA), but not for Central Volume Allocation (CVA).

Credit Assessment Price

The WG discussed the CAP's pros and cons, since the feedback captured the CAP as having the biggest impact on the amount of collateral to lodge. Elexon presented a solution

to make CAP an automated process, based on the past average system prices, going back X number of days. A Credit Committee member noted that the solution would remove the 'looking forward' aspect of the Alternative CAP process, and that would generate a greater risk of mutualisation due to more volatility.

A Credit Committee member noted having the Credit Committee was still important as it gives a good indication to the rest of the market of price volatility using forward market prices, and the three weeks consultation period is important to give early notice of a CAP change.

Then the IG voted to express if Elexon should explore this solution further, and the majority of the members voted against due to the increases in volatility it would likely cause:

- Yes – 0%
- No – 67% (8 votes)
- Neutral - 33% (4 votes)

Level 2 Default and Cure Period

Elexon proposed a potential solution for identified problems with Level 2 Default. It was noted that the timeline for lodging additional credit after entering Credit Default process is excessively constricted. In many cases the reason for entering the Credit Default process were public holidays, where CEI and MEI values are used for more Settlement days than usual.

An example of Level 2 Default challenges, is its impact on the power exchanges, which need to hold large amounts of collateral, and the short time frame afforded for them to take action before it is utilised to cover the risk of counterparties entering level 2 Credit Default, as Energy Contract Volume Notifications (ECVN)/Metered Volume Reallocation Notifications (MVRN)'s are at risk of being rejected.

For these problems, Elexon presented three possible solutions:

1. to remove the actions to refuse/reject energy contract notifications;
2. to provide power exchangers details of its customers' Credit Cover Percentages (CCPs); and
3. to delay the actions on rejecting ECVNs/MVRNs when a Party enters Level 2 default.

A WG member noted that publishing Level 1 Defaults sooner and sharing customers (CCPs) would solve the power exchange's main problems with the current arrangements. However, another WG member noted that the impacts on small Suppliers could be very detrimental.

Elexon received a proposal that developed further the third solution presented. It does not fundamentally change the Credit Default process. Instead, it modifies the timings to mitigate the impacts of Level 2 Credit Default by changing Section M 3.3.3 (i) and (ii).

Proposed redlining to Section M 3.3.3 a (i)

- '(i) the "Credit Default **Refusal** Period" is the period from the Submission Deadline for **Settlement Period J+4** until the Submission Deadline for the Settlement Period after the first subsequent Settlement Period in relation to which the Credit Cover Percentage for the Imbalance Party becomes not greater than ninety (90) per cent (%)'

The proposal delays the refusal of any new ECVN's & MVRN's which is submitted during the Credit Default Refusal Period by a further 90 minutes (3 Settlement Periods) from the current process.

Proposed redlining to Section M 3.3.3 a (ii)

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- '(ii) the "Credit Default **Rejection Period**" is the period from the Submission Deadline for **Settlement Period J+43** until the Submission Deadline for the third Settlement Period after the first subsequent Settlement Period in relation to which the Credit Cover Percentage for the Imbalance Party becomes not greater than ninety (90) per cent (%)'

The proposal delays the rejection of any upcoming previously accepted ECVN's & MVRN's which falls within the Credit Default Rejection Period by a further 30 minutes (1 Settlement Periods) from the current process.

Elxon conducted an analysis that looked at genuine instances of Level 2 Credit Default within the last 12 months to assess the potential impact of the proposal. As the proposal is to delay the rejection of ECVNs by a further Settlement, the value of impact is determined by what ECVN volume is seen on J+3 from the period in which the Party entered level 2 Default. ECVN volume at J+3 would no longer be rejected under the new proposal and would be 'permitted' to enter Settlement within the Credit calculation.

A theoretical example was also looked at using the maximum ECVN volume seen for a tier 1 supplier⁷. This would provide a view on what the maximum impact would likely be on the BSC if the rejection of this ECVN was delayed.

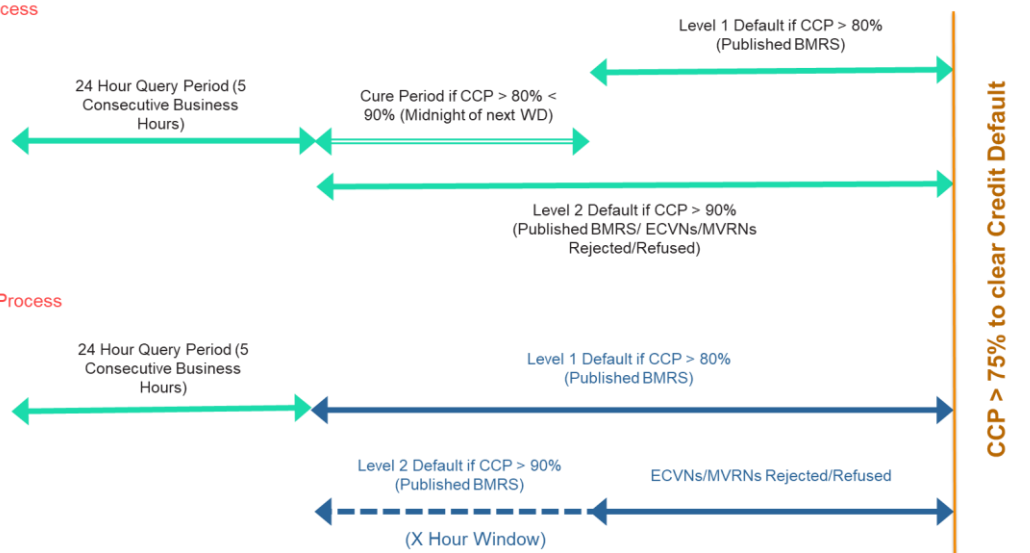
The analysis determined that the overall impact on the BSC is minimal, even when taking into account the largest possible period loss from a Tier 1 supplier. Furthermore, when this impact is weighed against the benefits of postponing the rejection of ECVNs (which aids liquidity in trading between counterparties) and reducing the use of collateral outside of the BSC, it is considered a minor risk. Delaying the rejection and refusal of ECVNs will be of benefit to all Counter Parties so as to mitigate as much as possible its risk of trading with another Party that is in Default.

The Issue group unanimously voted to recommend the progression of this Proposal as a Modification, and a Party expressed interest offline to Elxon in raising this change.

Level 1 Default and cure period

Elxon also presented a proposal to speed up the publication of Level 1 Default by removing the Cure Period.

Current Process



The Removal of the Cure Period was initially proposed to firstly simplify the Credit Default process hence making it easier for Parties to understand when they are in Default.

⁷ A 'Tier 1' suppliers are any suppliers that have a combined NHH and HH energy share greater than 10% of the market.

After review, Elexon recommended that the Cure Period remains to allow Parties additional time to lodge credit collateral during business hours. This will help if Parties have entered a Query period over the weekend and for international payments to clear in time. The IG agreed with this position.

Fairness and equality

The WG discussed whether there should be different rules for different types of Parties. There was some consensus that the current arrangement is not fair on Non-Physical Traders (NFT), even if the arrangements are equal on all Parties. However, it was noted that developing other solutions for different types of parties would be very complicated for companies with mixed portfolios, but not impossible.

Some WG members suggested that Elexon should develop risk profiles and request collateral amounts according to the risk a party presents of defaulting. The WG discussed if there should be different requirements for high risk profile companies to enter the Market. A WG member noted that new companies could lodge more collateral to minimise the risk of defaulting.

A participant noted that risk profiles are not necessarily attached to the type of organisation. There could be different risk appetites among Suppliers, Generators, etc.

A WG member noted that Parties could be treated differently depending on whether they have accurate metering earlier (CVA) or not (non-credit qualifying). Similarly, different business models should also be considered e.g. NPTs vs Suppliers.

Risk-based Solution

Based on a fairness value, Elexon presented a risk based approach to using collateral to cover as much unpaid Trading Charges by creating Credit Risk Profiles based on certain credit/payment criteria which will apply to all parties. This would be reviewed every three months to cover for market conditions and sudden changes. These Profiles would apply to Parties entering the Market onwards and could change based on parameters around credit/payment performance, credit rating and change in market participation capacity.

Elexon then proposed what criteria would be used to create the Credit Risk Profiles, based on research done on what other Codes are doing and the feedback received. For example:

- Credit rating score (As defined by Moody's or other credit agencies)
- Current market participation role
- Exceeding 3 Events of Default relating to Credit/Payment
- Number of times in authorised Credit Default Level 1
- Number of time in authorised Credit Default Level 2
- Number of Credit breaches > 80% Credit Cover Percentage
- Number of Payment Defaults relating to Trading Charges

These were just initial suggestions, to facilitate IG discussions.

The IG initial views on the proposal were positive, but further analysis and solution development was needed to agree on a recommendation.

Elexon presented the case that there is a high level of complexity in developing a scoring system and calculation to determine a risk factor. The resource and time to define a process of this nature is a great deal when asking Parties to lodge a sum of collateral relative to the size of the Party, particularly for most parties where there isn't a lot of risk and lodging collateral as cover which is not palatable.

The potential solution will require a fixed approach that aligns with Ofgem and their processes around Parties fit for purpose to enter the Market. Elexon identified a need for

financial resilience, which is part of the wider Ofgem criteria piece of Parties fit to enter the market.

An IG member noted that adding extra collateral would work as a barrier to market entry, and without a clear definition of 'risk' it is not possible to assess the Proposal's implications. It was also noted that since the last energy crisis, Ofgem has been working on its financial requirements for market entry and which should go some way to mitigate the risk of new entrants with insufficient capital entering the market resulting in payment defaults.

The IG voted if they agreed with the proposed concept:

- Yes – 13% (1 vote)
- No – 75% (6 votes)
- Neutral – 13% (1 vote)

Therefore, the WG is not recommending this Proposal as its additional complexity and effort to operate and maintain and it would be difficult to get the criteria to reflect the risk. Moreover, it risked creating a barrier to entry, which no-one was able to justify.

Impacts of providing Credit Cover

Elxon asked the WG what the main impacts of providing Credit Cover were. The WG replied that it has high impacts on liquidity since it ties up capital. The main problem seems to be that it takes too much time and effort to administer Credit, especially to withdraw after CAP decreases. However, Elxon explained that the waiting period to withdraw collateral covers potential increases in the incoming days.

During the discussion, there were two main trends regarding the impacts of Credit Cover. Small parties noted that the arrangements strongly impact cash flow and can work as a detriment for entering the Market. However, most of the Issue Group members said that no company should enter the Market if they are not ready to afford the required cash flow.

On the other hand, big companies expressed that they lodge more collateral than needed so as to not risk breaching the default threshold and being published on the BMRS, even when this is not an efficient mechanism.

A WG member noted that BSC Credit is just one of several financial obligations that companies have, and that the WG should be mindful of this when designing a new solution.

It was noted that the timescales involved in lodging collateral to clear Credit Default by 14:00 on the Monday following a weekend are not helpful when public holidays or weekends are involved. This then increases the likelihood of parties entering default.

Elxon explained that Minimum Eligible Amount⁸, even when challenging, works as a control mechanism that prevents parties with high-risk appetites from defaulting.

Minimum Eligible Amount

Since there were many complaints around MEA, Elxon proposed a solution to modify it. Elxon proposed to change the ten-calendar day waiting period to seven, looking backwards at the highest Indebtedness.

Currently, submitting an MEA request initiates a 10 calendar day waiting period. Elxon takes the maximum indebtedness amount seen in that period and work out what amount of credit is required to avoid breaching over 75% of your total indebtedness.

The proposal would result in MEA being calculated looking at the highest indebtedness amount seen in previous seven Calendar days and a MEA result could be calculated every 30 minutes. Hence, Parties could have a result available every Settlement Period.

⁸ Note: the Minimum Eligible Amount is the mechanism to withdraw Credit Cover.

The seven Calendar day period was proposed since it will take into account variation of peaks seen across weekdays and weekend.

The FAA could complete a final check before processing credit withdrawal, to monitor any noticeable changes in indebtedness and reduce the risk of having insufficient credit in place against any potential large swings in a Party's indebtedness position.

Following the deliberation, the consensus within the Workgroup was that the proposed solution might introduce more challenges than those present in the existing procedure. Consequently, it was deemed appropriate to reject the proposal.

Communication and Credit Governance

Finally, the Issue Group discussed the proposed work stream 5: Communication and Governance. During the general discussion, the Issue members mentioned that one of the main problems is the time for Ofgem to expel defaulting companies from the Industry, after the BSC Panel recommended the expulsion. Elexon explained how it has no faculty to enforce any penalty and that the Issue Group should review the process by which Elexon notifies of a breach and its consequence.

The Issue Group reactions were mixed: members of the Panel or the Credit Committee were very kind to review the enforcement mechanisms. However, the rest of the members did not have a strong view on the subject.

The WG discussed the need for a better understanding of Ofgem's position regarding defaulting parties and expelling them from the Market. It was noted that expelling Suppliers may impact on consumers, hindering the decision.

A WG member explained that the BSC Panel has no visibility of a company's liability elsewhere, which hinders their ability to decide on Parties' positions.

As a result from the discussion, Elexon created an internal workgroup to review and work on a more aligned process between Elexon and Ofgem. An introductory meeting has held during October 2023. It will continue outside the scope of Issue 106.

4. Conclusions

The Issue Group conducted a series of five meetings throughout 2023 to review and propose modifications to BSC Credit Cover arrangements.

The group engaged in comprehensive discussions about the scope of Credit Cover, especially in covering Trading Charges during defaults.

Elexon proposed a new calculation for Indebtedness that aimed to simplify and improve accuracy, by using Trading Charges and metered data, moving away from previously problematic variables like GC/DC and CALF, and looking at new ways to calculate the CAP value.

The group evaluated the data requirements and timeframes associated with credit processes, discussing the potential for shorter credit cycles and more accurate data usage.

The discussions also centred on ensuring fairness and equality in the application of Credit Cover, considering the diverse nature of market participants. The group debated the viability of different rules for various party types and the introduction of risk-based approaches to credit assessment.

Recommendations

The Issue 106 Group recommend that the following changes are made to the BSC to reflect improvements identified during the course of assessment:

- The development of a new Credit Cover Calculation (to be implemented after the go-live date of the Market Half-Hourly Settlement Programme) – subject to a BSC Party raising the Modification, we would expect this to be raised in the second half of 2024;
- To modify the Credit Default process by delaying the rejection/refusal of any ECVNs & MVRNs after a Party has entered authorised Level 2 Default – subject to a BSC Party raising the Modification, we would expect this to be raised in the first quarter of 2024; and
- The formation of an internal workgroup aimed at enhancing coordination between Elexon and Ofgem – this has been established. The results of the workgroup will be shared with the Distribution List.

Issue Group membership and attendance

Forename	Company	21 Feb2 3	23 Mar2 3	15 Jun2 3	15 Aug 23	13 Nov 23
Alex Houlbourne	Habitat Energy			✓		
Andrew Colley	SSE	✓	✓	✓	✓	✓
Andrew Russell	ENGIE	✓	✓	✓	✓	✓
Andy Howden	CGI		✓	✓	✓	✓
Angus Young	Flexitricity					
Anna Rafalska	Respect Energy					
Annette Amilia Ogano	Cobble Stone Energy			✓		
Arran Train	Energy24					
Arshdeep Jindal	DARE Power Limited					
Aysel Balci	Eneco					
Caroline Pitt	Squeaky					
Claire Addison	Flexitricity			✓		
Daniel Agarski	CEZ				✓	✓
Daphine Nampeera	Cobble Stone Energy			✓		
David Collins	CGI	✓	✓		✓	✓
David Hastings	Nord Pool Group					
David Hugill	Energy24	✓				
David Mlynski	Outlook Energy Holdings Ltd					
David Soper	Valda Energy					
Diane Dowdell	TradeLink Solutions	✓	✓		✓	
Edward Coleman	Statkraft UK Ltd.					
Edward Hunter	Edf	✓		✓	✓	✓
Eleonora Pilla	Habitat Energy	✓		✓		

Emma Burns	Flexitricity	✓				
Erdal Dagyan	EDA					
Francois Gonsior	ECC	✓	✓	✓	✓	✓
Frank Thompson	Nord Pool Group	✓				
Guido La Rosa	Energetech Europe BV	✓				
Harry Hailwood	Brook Green Supply					
Howard Wright	EPEX SPOT	✓	✓	✓	✓	✓
Ijaz Rasool	BP	✓				
Jerry Morris	London Electricity Group					
Joanna Ziemba	Respect Energy					
Johan Askehave	Outlook Energy	✓	✓	✓	✓	✓
John Cook	Energy24	✓	✓	✓		✓
John Nagle	RISQ					
Karl Maryon	Drax	✓		✓	✓	
Lee Priestley	Conrad Energy Lt					
Liam Dennis	Volcore Ltd					
Lisa Riebel	Optimax Energy GmbH					
Lisa Waters	Waters Wye Associates	✓				
Mark Bellman	BT internet					
Mark Oxby	Statkraft Markets GmbH	✓	✓		✓	✓
Mehdi Sunda	Ofgem	✓	✓	✓	✓	
Meiyi Jiang	Cobble Stone Energy			✓		
Neil Dewar	NGESO					
Neil Jackson	Energy24					
Niclas Tue Hansen	Alipes Energy apS		✓			
Olivia Jones	Ofgem					
Paul Bedford	Drax					
Paul Farmer	Shell	✓	✓	✓		
Philip Russell	Independent		✓	✓	✓	✓
Richard Colwill	DCUSA					

Robert Hutcherson	BP	✓	✓		✓	
Ryan Walker	InterGen (UK) Ltd					
Sam Davies	Marble Power Limited				✓	
Samer Baaklini	Energetech Europe BV	✓	✓	✓		✓
Sharon McCahey	SSE					
Thomas Konig	Enspired GmbH	✓	✓			
Thuong Phan	Scarlett			✓	✓	✓
Tim Ellingham	RWE Supply & Trading GmbH	✓	✓			
Timothy Ahumuza	Cobble Stone Energy	✓				
Zuzana Adamekova	DARE Power Limited			✓		
Elliott Harper	Elxon	✓	✓	✓		
Cecilia Portabales	Elxon	✓	✓	✓	✓	✓
Chris Wood	Elxon	✓	✓	✓	✓	✓
Tirath Maan	Elxon	✓	✓	✓	✓	✓
Roger Harris	Elxon	✓	✓	✓	✓	✓
Darren Draper	Elxon	✓				
Katie Wilkinson	Elxon	✓	✓	✓	✓	✓
Sara Doubleday	Elxon	✓	✓	✓		
Lawrence Jones	Elxon					✓

Appendix 2: Trading Charges

CEI/ME inaccuracy

During their analysis Elexon, looked at the AEI amount during May 2023 for several different types of BSC Party – two big Suppliers, a medium Supplier with a mostly domestic portfolio, a Generator with a predominantly renewable portfolio and a gas turbine Generator. The table below shows how the CEI was reduced once the MEI was available, and reduced again once the AEI became available. The table is for a Big Supplier.

For example, on 10 May 2023, the CEI was -5,586.43 MWh, the MI for the same date (calculated from WD + 3) was 5707.25 MWh, and then the AEI value (from WD + 5 and based on actual Trading Charges (TCs)) was -943.04 MWh. The CAP for the period shown in the table was £110/MWh, so the AEI on 10 May is -£103,733.98 divided by £110 = 943.04MWh.

	Trading Charges (£)	AEI (MWh)	MEI (MWh)	CEI (MWh)	TEI (MWh)
22-May	-£69,062.51			-627.84	-627.84
21-May	-£55,079.95			-500.73	-500.73
20-May	-£205,416.02			-1867.42	-1867.42
19-May	-£142,509.68			-1295.54	-1295.54
18-May	-£116,387.25			-1058.07	-1058.07
17-May	£866,421.33		7876.56		7876.56
16-May	£427,763.77		3888.76		3888.76
15-May	£486,629.55		4423.91		4423.91
14-May	-£212,077.80	-1927.98	2,498.26	-2,877.97	-1927.98
13-May	-£224,589.87	-2041.73	-2,363.04	-4,981.75	-2041.73
12-May	-£71,186.60	-647.15	2,898.12	-3,441.78	-647.15
11-May	-£148,192.46	-1347.20	6,331.16	-6,366.65	-1347.20
10-May	-£103,733.98	-943.04	5,707.25	-5,586.42	-943.04
09-May	-£187,718.84	-1706.53	2,382.86	-5,859.10	-1706.53
08-May	-£418,664.62	-3806.04	1,623.34	-5,515.91	-3806.04
07-May	-£238,937.57	-2172.16	5,826.42	-2,927.49	-2172.16
06-May	-£228,614.56	-2078.31	4,097.25	-5,986.70	-2078.31
05-May	-£270,447.99	-2458.62	4,233.41	-6,050.17	-2458.62
04-May	-£240,736.03	-2188.51	19,534.32	-3,986.14	-2188.51
03-May	-£198,243.88	-1802.22	4,563.04	-4,332.10	-1802.22
02-May	-£171,533.18	-1559.39	2,657.57	-7,476.19	-1559.39
01-May	-£272,014.79	-2472.86	5,477.78	-5,291.26	-2472.86
30-Apr	-£169,519.27	-1541.08	N/A	N/A	-1541.08
29-Apr	£136,379.86	1239.82	N/A	N/A	1239.82
28-Apr	-£582,171.26	-5292.47	N/A	N/A	-5292.47
27-Apr	-£468,123.68	-4255.67	N/A	N/A	-4255.67
26-Apr	-£37,102.86	-337.30	N/A	N/A	-337.30
25-Apr	-£218,029.32	-1982.08	N/A	N/A	-1982.08

Demonstrated as a graph:

345/09

Issue 106

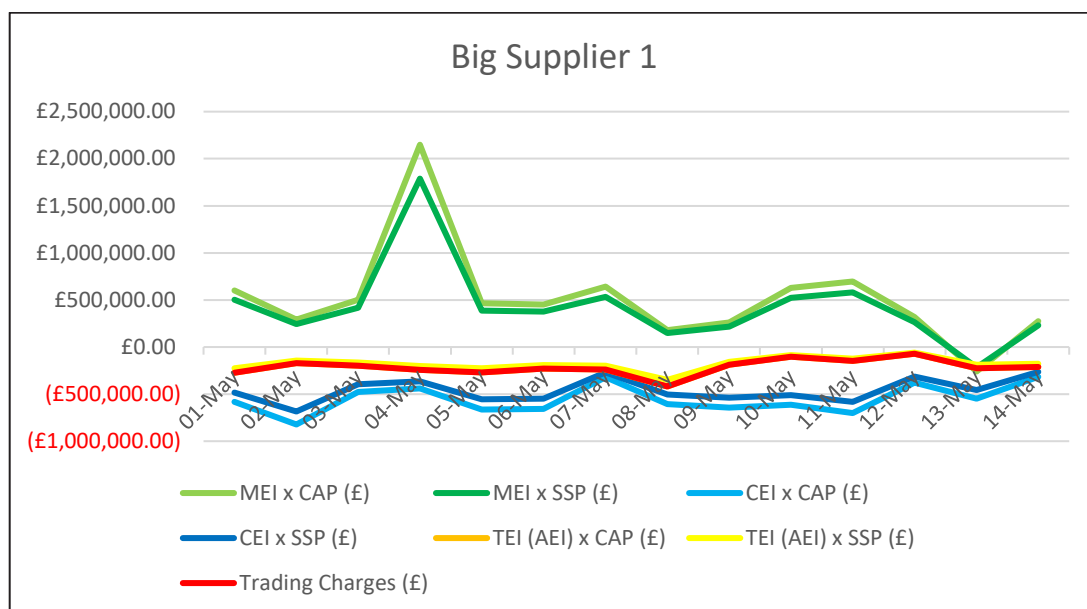
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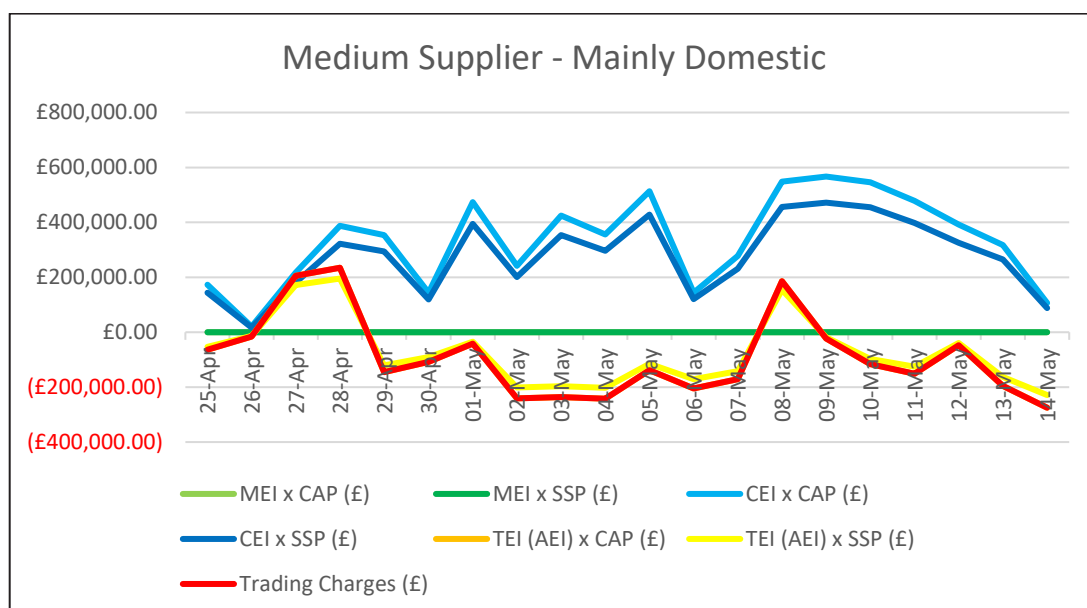
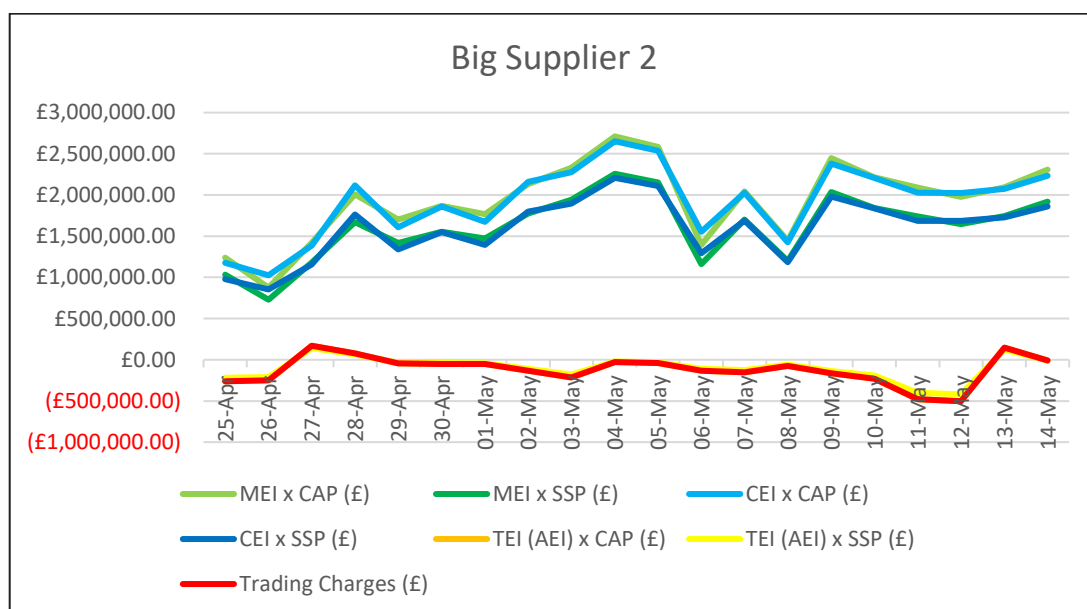
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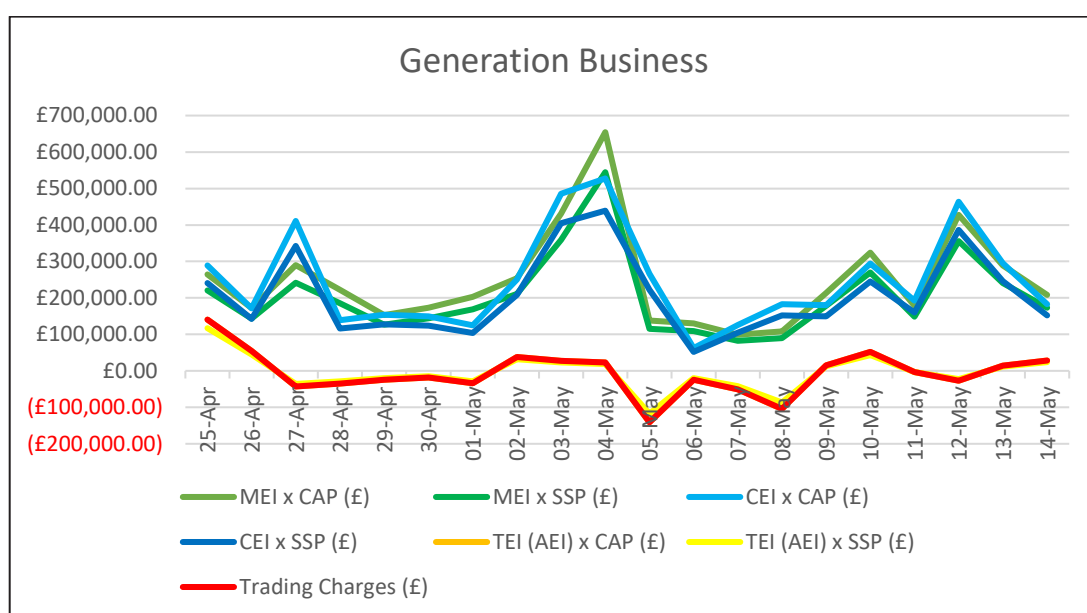
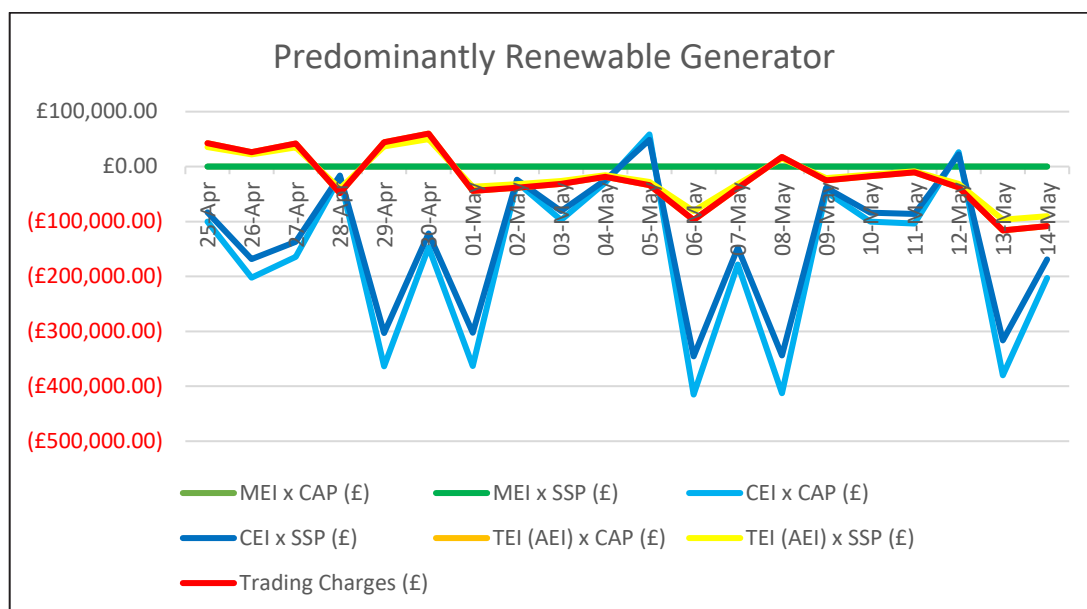
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When we plot this for other party types, we see similar discrepancies between CEI, MEI (if applicable) and AEI.





As can be seen above, we multiplied the Energy Indebtedness volume by both the SSP and CAP. In all cases, the CAP was £110/MWh and the SSP was £91.57/MWh – this was done to show how CAP roughly tracks SSP, which was part of the proposal to automate CAP (see above). As AEI is TCs divided by CAP, when we multiply AEI by the CAP, it is equal to TCs, hence why the amber line in the key isn't seen in any of the graphs, but we included for completeness as we multiplied the other volumes by both SSP and CAP.

Trading Charge elements

The Trading Charges (TCs) that are used to determine AEI, and will be used in the new calculations, are listed in BSC Section T 5.3.3(b). The make-up of each of the TCs is explained throughout section T, and were we to write down the entire formula (i.e. the sum of all 7 TCs), then the formula would take up approximately half a page. As part of their support to the Issue Group, Elexon did break down the formulas to their base levels. There are several data items that are common to several formulas and, in some cases are used in different parts of the same formula. The table below show each of the base data sets that make up the TC formulae grouped by type.

Balancing Volumes – all MWh	Reallocation Volumes	Price	Constant values	Meter Volumes
Period FPN (FPNij)	Metered Volume Reallocation Percentage Data (QMPRziaj)	System Sell Price (SSPj)	Transmission Loss Multiplier (TLMij)	The Metered Volume (QMij)
BM Unit ABSVD (QASij)	Metered Volume Reallocation Fixed Data (QMFRziaj)	Offer Price (PONij)	GSP Group Correction Factor (CFHj)	ABSVD BM Unit Metered Consumption (AQVMDiNLKj)
Period BM Unit Balancing Services Volume (QBSij)	Energy Contract Volume from account 'a' to account 'b' (ECQzabj)	Bid Price (PBnij)	GSP Group Correction Scaling Weight (WTN)	Half Hourly Consumption (Non Losses) (Cinj)
Period Accepted Offer Volume (QAOknij)	Energy Contract Volume from account 'b' to account 'a' (ECQzbaj)	Accepted Offer Ranking (AOnuij)	Line Loss Factor (LLFLj)	Half Hourly Consumption (Losses) (CLOSSinj)
Period Accepted Bid Volume (QABknij)		Information Imbalance Price (IIPj)	Transmission Loss Factor (TLFij)	Period BM Unit Demand Disconnection Volume (QDDij)
Period BM Unit Total Accepted Offer Volume (QAOnij)				
Remaining Period BM Unit Non-Delivered Offer Volume (RQND Ou-1ij)				
Period RR Total Accepted Offer				

Balancing Volumes – all MWh	Reallocation Volumes	Price	Constant values	Meter Volumes
Volume (RRAOnij) Period BM Unit Total Accepted Bid Volume (QABnij)				
Remaining Period BM Unit Non-Delivered Bid Volume (RQNDBu-1ij)				
Period RR Total Accepted Bid Volume (RRABnij)				

The four volumes in the right-hand column that are shaded in grey are derived by the Settlement Volume Allocation Agent (SVAA) from the first value in that column – Metered Volume (QMij).

The table below shows how and when the data used in TCs comes into Settlement systems.

Notification	Value(s)	Timing	Sender	Recipient
ECVN	ECQzabj, ECQzbaj	Before Submission Deadline	ECVNA	ECVAA
MVRN	QMPRziaj, QMFRziaj	Before Submission Deadline	MVRNA	ECVAA
FPN	FPNij	Multiple times daily (see BSCP01)	Lead Parties NETSO BMRA	NETSO BMRA ECVAA
BOAs	QAOknij, QABknij, QAOnij, RQNDOu-1ij, RRAOnij, QABnij,	Before Gate Closure	Lead Parties	NETSO

Notification	Value(s)	Timing	Sender	Recipient
	RQNDBu-1ij, RRABnij, PONij, PBnij, AOnuij			
Published Accepted BOAs	QAOknij, QABknij, QAOnij, RQNDOu-1ij, RRAOnij, QABnij, RQNDBu-1ij, RRABnij, PONij, PBnij, AOnuij	15 minutes after acceptance	NETSO	BMRA
BM Unit Applicable Balancing Services Volume Data	QASij, QBSij	5 Mins after acceptance/ Gate Closure +15m	NETSO	BMRA
CDCA Metered Data	QMij (AQVMDiNLKj, Cinj, CLOSSinj, QDDij)	Settlement Day +1 (1300)	Meter Systems	CDCA
Teleswitch data	QMij (AQVMDiNLKj, Cinj, CLOSSinj, QDDij)	+ 1WD	Tele- switch Agent	SVAA
IC BM Unit Metered Volume	QMij (AQVMDiNLKj, Cinj, CLOSSinj, QDDij)	+ 1WD	IC Agent	SAA
SVA Volumes	QMij (AQVMDiNLKj, Cinj, CLOSSinj, QDDij)	+4 WD/ +1WD post- MHHS	DAs/ Data Services post- MHHS	SVAA
MSID and AMSID Delivered Volumes	QMij (AQVMDiNLKj, Cinj, CLOSSinj, QDDij)	+1 WD (1700)	VLP/ AMVLP	SVAA
System Sell Price	SSPj	+4WD	SAA	All