

## Phase

[Initial Written Assessment](#)[Definition Procedure](#)[Assessment Procedure](#)[Report Phase](#)[Implementation](#)

## P342 'Change to Gate Closure for Energy Contract Volume Notifications'

This Modification would introduce a new deadline for the purpose of submitting Energy Contract Volume Notifications (ECVNs) and Metered Volume Reallocation Notifications (MVRNs) for each Settlement Period. This new contract notification deadline would be decoupled from Gate Closure, and would be set 60 minutes after the start of the relevant Settlement Period (Proposed Modification) or at the start of the relevant Settlement Period (Alternative Modification).



The BSC Panel recommends **approval** of the P342 Alternative Modification and **rejection** of the P342 Proposed Modification

This Modification is expected to impact:

- BSC Trading Parties
- Energy Contract Volume Notification Agents (ECVNAs)
- Metered Volume Reallocation Notification Agents (MVRNAs)
- The Energy Contract Volume Allocation Agent (ECVAA)



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## About This Document

This is the P342 Final Modification Report, which ELEXON has submitted to the Authority on behalf of the BSC Panel. It includes a summary of the Workgroup's assessment, the Panel's full views and the responses to both the Workgroup's Assessment Consultation and the Panel's Report Phase Consultation. The Authority will consider this report and will decide whether to approve or reject P342.

There are nine parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, benefits/drawbacks and proposed implementation approach. It also summarises the Workgroup's key views on the areas set by the Panel in its Terms of Reference, and contains details of the Workgroup's membership and full Terms of Reference.
- Attachment A contains the approved redlined changes to the BSC for the P342 Proposed solution.
- Attachment B contains the approved redlined changes to the BSC for the P342 Alternative Modification.
- Attachments C and D contain the approved redlined changes to impacted Code Subsidiary Documents (CSDs) for the Proposed P342 solution.

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**P342**  
**Final Modification Report**

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**16 December 2016**

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**Version 1.0**

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- Attachments E and F contain the approved redlined changes to impacted CSDs for the Alternative Modification<sup>1</sup>.
- Attachment G contains the full responses received to the Workgroup's Assessment Procedure Consultation.
- Attachment H contains the full responses received to the Panel's Report Phase Consultation.

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<sup>1</sup> While we have presented the CSD redlined changes for the Proposed and Alternative Modifications separately, they are otherwise identical, as these depend on the redlined changes to BSC Section X-1.

### Why Change?

The Proposer believes that having the ECVN and MVRN submission deadlines at Gate Closure is inefficient and reduces competition.

### Solution

The outcome of the P342 Assessment Procedure is a Proposed and Alternative solution to the issue/defect identified, details of which are below. Both propose to introduce a separate notification deadline for the purposes of submitting ECVNs and MVRNs for each Settlement Period that is independent of Gate Closure.

The **Proposed Modification** solution proposes to set this submission deadline to 60 minutes after the start of the relevant Settlement Period (i.e. 30 minutes after the end of the Settlement Period).

The **Alternative Modification** solution proposes to set this submission deadline to at the start of the relevant Settlement Period.

Both solutions will only affect the deadline for submitting ECVNs and MVRNs; the definition of Gate Closure (the deadline for submitting data under other industry Codes, in particular the Grid Code) will be unaffected by P342. Therefore, the deadline for submission of Final Physical Notifications (FPNs) and Bid-Offer Pairs will not be affected.

### Impacts & Costs

The Assessment Consultation responses highlighted that there will be costs associated with the changes in the ECVAAs submission software, IT processes and internal procedures. There will also be legal costs due to the amendments of contracts and agreements and the reconfiguration of the intraday market.

P342 will impact the ECVAAs, with central costs of approximately £4,000.

### Implementation

P342 is proposed for implementation on **2 November 2017** as part of the November 2017 BSC Release.

### Recommendation

By majority, the Panel believes that the P342 Proposed Modification does better facilitate Applicable BSC Objectives (c) and (e) compared to the current baseline. The Panel unanimously agreed that the P342 Alternative Modification does better facilitate Applicable BSC Objectives (c) and agreed by majority that the Alternative Modification better facilitate Applicable BSC Objective (e) compared to the current baseline. Therefore, the Panel agreed that the P342 Alternative Modification is better than the P342 Proposed Modification and should be **approved**.

### What is Gate Closure?

Gate Closure is the point of time one hour before the start of a Settlement Period by which all notifications relating to that Settlement Period must be submitted by BSC Trading Parties. These notifications include FPNs and Bid-Offer Pairs, which are submitted to National Grid, acting as the System Operator, and ECVNs and MVRNs which are submitted to the ECVA.

Following Gate Closure, the System Operator will carry out its balancing responsibilities through the Balancing Mechanism (BM). It will use its forecast of demand for the Settlement Period and the physical data submitted by Trading Parties to determine whether there is likely to be a surplus or deficit of electricity in the Settlement Period. The System Operator will then accept Bids and Offers as necessary to ensure that generation matches demand throughout the Settlement Period.

After Gate Closure, Trading Parties are expected to adhere to the physical data submitted to the System Operator, in line with the Grid Code obligations. They should only deviate from this position at the instruction of the System Operator.

### What are ECVNs and MVRNs?

Contract notifications are submitted by all Trading Parties to the ECVA. There are two varieties of notification under the BSC:

- **ECVNs** are used to notify the ECVA of the traded volumes from bilateral trades between two Trading Parties.
- **MVRNs** are used to notify that either a fixed volume or a percentage of the output of a given BM Unit should be reallocated to another Trading Party's Energy Account.

A Trading Party is required to submit its ECVNs and MVRNs for a particular Settlement Period by Gate Closure. This was reduced from 3.5 hours at NETA go-live to one hour in 2002, in order to permit bilateral contracting to continue as close to real time as possible.

### What is the issue?

The Proposer believes explicit coupling of the time at which FPNs and other parameters relating to the dispatch of plant are locked in, and the time at which ECVNs are locked in is unnecessary, reduces competition, and requires Trading Parties to trade in a manner which is less efficient than might otherwise be the case.

[P305 'Electricity Balancing Significant Code Review Developments'](#) introduced a single, marginal imbalance price with the potential to rise to very high values in the event of scarcity of supply and the potential to fall to low or negative values in the event of extreme oversupply. In light of this, the Proposer believes there is a need to be able to transfer risk between Trading Parties, from willing buyers to willing sellers, at a fair market price. They believe that if trading could continue past the current definition of Gate Closure up until a point where an indicative imbalance price has been published, this would allow efficient and effective transfer of risk, promoting competition in the sale and purchase of electricity.

The P305 reforms, in the Proposer's view, increase the need to accurately predict the Net Imbalance Volume (NIV) and the marginal actions taken by the System Operator. The uncertainties associated with early hedging will likely result in wider spreads between Bids and Offers and lead to lower liquidity. As delivery approaches, greater certainty can be gained over the likely imbalance price. This is likely to result in a concentration of liquidity in the run up to market closure. The Proposer believes a later deadline for ECVN submission would improve this liquidity.

Furthermore, the Proposer considers that the single imbalance price allows Trading Parties to stimulate trading post-Gate Closure via another route. A financial deal could be struck between two Trading Parties where the difference between the strike price and the imbalance price is passed between the 'buyer' and the 'seller'. However, these deals would potentially be subject to more onerous regulation as a financial product, and more onerous BSC credit requirements due to increases in imbalance cash flows.

The Proposer also notes the explicit coupling of time between Gate Closure and the ECVN submission deadline may create difficulty for future developments in intra-day trading using coupled European Union auctions. Under these proposals, trading up to one hour before a traded period must be allowed, but results may not be known until after the current definition of Gate Closure.

[Issue 35 'Timing of Gate Closure and Related Matters'](#), raised in 2008, touched upon this area. The Issue 35 Group was, however, primarily focussed on modifying the timing of Gate Closure for FPNs as well as ECVNs. While the Issue 35 Group expressed concern that ex-post trading might not provide the correct incentives on Trading Parties to manage their trading/imbalance, the P342 Proposer notes that the subsequent implementation of P305 raises this possibility without a requirement to submit the relevant ECVNs.

This Modification has been raised following [Issue 61 'Changes to Gate Closure for Energy Contract Volume Notifications'](#). The Issue 61 Group, by majority, concluded that the ECVN submission deadline should be extended beyond its current time of one hour before the Settlement Period begins. However, the Group did not agree on by how much the ECVNs submission deadline should be extended.

### Proposed solution

P342 'Change to Gate Closure for Energy Contract Volume Notifications' was raised by EDF Energy on 25 May 2016. It proposes to introduce the concept of a separate deadline for ECVNs and MVRNs. The time of the new submission deadline for contract notifications would be separate from the existing 'Gate Closure' time, and would be set to 60 minutes after the start of the relevant Settlement Period. The existing definition of 'Gate Closure', which is the time 60 minutes before the start of the Settlement Period, would be retained as this term is directly referenced under other Codes, in particular the Grid Code. Any references to 'Gate Closure' under other Codes would therefore be unaffected by P342.

### Alternative solution

The Workgroup developed an Alternative Modification, identical to the Proposed Modification, except that the ECVN and MVRN submission deadline would be set at the start of the relevant Settlement Period.

### Legal text

The proposed redlined changes to the BSC to deliver P342 can be found in Attachment A (Proposed Modification) and Attachment B (Alternative Modification).

We have also prepared the changes to impacted CSDs where possible. These can be found in attachments C and D (Proposed Modification) and attachments E and F (Alternative Modification).

### Self-Governance

The Panel agreed that P342 should not be treated as a Self-Governance Modification due to potential material impacts on competition and impacts on security of supply.

### Estimated central implementation costs of P342

The central implementation costs of P342 are around £4,289. These costs arise from the ECVAAs changing the value of the 'Gate Closure' parameter for ECVNs and MVRNs within the ECVAAs systems and testing that these changes have successfully taken effect. There will be no ongoing costs.

### Indicative industry costs of P342

The Assessment Consultation responses highlighted that there will be costs to Parties associated with the implementation of P342. One respondent noted that these costs will be caused by mismatched or un-matched trades. Another respondent noted there will be additional balancing costs due to the implementation of P342. Parties may be incentivised by P342 to change their physical output after Gate Closure, however generating plant may be restricted under the Grid Code to output in accordance with their FPNs. The majority of the Workgroup agreed that the impact on balancing costs will depend on the behaviour of Parties that are the registrants of non-BM Units (i.e. generation that is not required to submit FPNs, such as embedded generation). Therefore, at the moment, it is difficult to predict this behaviour and the indirect costs related with a potential trading mismatching with certainty.

Other respondents noted there will be costs to align their systems with the changes in the ECVAAs submission software, and to update IT processes and internal procedures. They also identified legal costs associated with amending contracts and agreements. One respondent advised there will be costs due to the reconfiguration of the intraday market.

Another respondent noted the costs derived from P342 will be minimal.

### P342 impacts

Impact on BSC Parties and Party Agents	
Party/Party Agent	Impact
BSC Trading Parties	Trading Parties will be able to submit ECVNs and MVRNs up to 60 minutes after the start of the relevant Settlement Period (Proposed Modification) or at the start of the Settlement Period (Alternative Modification).
ECVNs	
MVRNs	

Impact on Transmission Company
None anticipated

Impact on BSCCo
None anticipated



#### Impact on BSC Systems and process

BSC System/Process	Impact
ECVAA	The ECVAA will receive ECVNs and MVRNs for a Settlement Period up to 60 minutes after the start of the relevant Settlement Period (Proposed Modification) or at the start of the Settlement Period (Alternative Modification).

#### Impact on Code

Code Section	Impact
Section H	Changes will be required as a result of this Modification. <i>You can find the approved changes in Attachment A (Proposed Modification) and in Attachment B (Alternative Modification).</i>
Section M	
Section P	
Section X Annex X-1	

#### Impact on Code Subsidiary Documents

CSD	Impact
ECVAA Service Description	Changes will be required to implement this Modification. <i>You can find the approved changes in Attachments C and D (Proposed Modification) and in Attachments E and F (Alternative Modification).</i>
ECVAA User Requirements Specification	

#### Impact on Other Documents

Document	Impact
Guidance Notes	Any guidance notes that reference Gate Closure will need to be amended in line with P342.

### Recommended Implementation Date

The P342 Workgroup recommends an Implementation Date for P342 of **2 November 2017** as part of the November 2017 BSC Release.

The November 2017 Release is the earliest appropriate Release that P342 can target based on the current P342 progression timetable and the current view of changes targeted at or approved for each Release. Including P342 in the June 2017 Release would increase risk to the implementation of the large volume of system changes already approved for this Release. The Workgroup noted this and agreed it sensible that P342 should be targeted at the November 2017 Release.

Nine out of thirteen respondents to the Assessment Consultation agreed with the proposed Implementation Date. One respondent believes this Modification should not be implemented because it is detrimental to competition.

Another respondent argued that changes of this magnitude should not occur before volatile periods and thus P342 should be implemented after the winter of 2017/18. The Workgroup agreed by majority that, due to the potential immediate benefits of P342, the proposed Implementation Date of 2 November 2017 is preferred.

The Panel unanimously agree with the Workgroup's recommended Implementation Date.

### What is the impact of P342 on liquidity in the market?

At the first Workgroup meeting a Workgroup Member noted that if Trading Parties can trade after Gate Closure, they might wait until they know the indicative imbalance price and trade after that point. This will not increase the liquidity of the market, but will only move the time at which trades happen. The Workgroup agreed that it could not demonstrate that the Proposed Modification will improve the liquidity of the market. However, it is possible to identify how much volume is left over in the market at Gate Closure which could potentially be traded during real time.

At the second Workgroup meeting the Workgroup Members investigated the residual volumes available at Gate Closure that could potentially be traded if the deadline were extended, and the results of this analysis can be found in Appendix 1.

The Workgroup noted that the sum of the net imbalance volume did not necessarily show what the true tradable volume is. One Workgroup member noted that a Trading Party would only be able to trade if there is another Trading Party whose position is in the opposite direction. For example, if a Trading Party is long and has residual energy which is available to trade, it will trade only if there is a corresponding short volume with one or more other Trading Parties. Indeed, if Trading Parties were all long or all short there would be no opportunity to trade.

The Workgroup agreed that is crucial for the rationale of P342 to identify the residual tradable volume left over at Gate Closure. The Workgroup was keen to see how much 'overlapping' volume there was in each Settlement Period between those Trading Parties who were long and those who were short (e.g. if there was 600MWh of imbalance across 'long' Trading Parties and 400MWh across 'short' Trading Parties then there is the potential for 400MWh of trading to be done). The analysis suggested that there could be around 300MWh-400MWh available on average in each Settlement Period that could be traded.

Based on the analysis results and on the experience of members, the Workgroup agreed by majority that there is a significant chance that P342 will have a positive impact on liquidity in the market.

### Should any changes be made to the Credit calculations?

Under the current arrangements, a Settlement Period is added to the Credit Cover Percentage (CCP) calculation at Gate Closure, when all ECVNs and MVRNs are final. The Proposed Modification would move the ECVN and MVRN submission deadlines back by two hours, which would be at, or shortly after, the time at which the indicative imbalance price for the Settlement Period will become known.

The Workgroup discussed whether this proposal would have an impact on the Credit calculation. Members noted that if the ECVN submission deadline was extended until after the indicative imbalance price was calculated, there would be the possibility of using that specific price in the Credit calculation in place of the flat Credit Assessment Price (CAP). This would make the Credit calculation more dynamic and responsive to market conditions.

It was noted that, following the implementation of P305, the Credit calculation should be more responsive to price fluctuations. However, a Workgroup member considered that the CAP is not intended to respond to prices changes. They added that the CAP is a proxy estimation of the credit market and therefore it can produce inaccurate results.

The Workgroup sought some analysis on the impacts of using the indicative imbalance price in place of the CAP in the Credit calculation. This analysis concluded that an overall reduction in the amount of Credit needing to be lodged could be realised from this change, with Suppliers realising the biggest potential reduction. The full results of this analysis can be found in Appendix 1.

The Workgroup noted these results, but also considered that the intent of P342 is to amend the deadline for submitting ECVNs. While this change to the Credit calculations could realise benefits, including it under P342 could unduly impact the progression of its core intent. The Workgroup also noted that this element would add around £45,000 to the central costs of P342, and could have a more notable implementation impact on participants.

The Proposer concluded that, based on the analysis and discussion, changes to the CCP calculation should not form part of the proposed solution of P342. The Workgroup agreed with this approach, but members encouraged this element to be investigated further separately. It was also noted that this change could be progressed irrespective of the outcome of P342 should the time at which the Credit calculation commences be decoupled from the ECVN submission deadline.

## **Should the new Submission Deadline apply to Market Index Data?**

At the third Workgroup meeting the Proposer asked whether the submission of Market Index Data should also be moved to the Submission Deadline or remain at Gate Closure. The Workgroup did not have a strong view on this, but was in agreement that any delay in submitting Market Index Data due to the later deadline for notifying trades to ECVAA should not delay the calculation and publication of the cashout price on the BMRA.

The Proposer noted that the volumes expected to be traded after Gate Closure but before the Submission deadline should be low enough not to materially influence the imbalance price calculation, and so the deadline for qualifying trades for Market Index Data purposes could remain at gate Closure. The Workgroup noted and agreed with this approach.

ELEXON confirmed that, for both the Proposed and Alternative Modification, Gate Closure would remain as the deadline for qualifying trades for the provision of Market Index Data. However, it noted that, once sufficient data was available on the volumes and prices of trades carried out between Gate Closure and the Submission Deadline, a determination of the most appropriate deadline could be included in the MIDS review in August 2018.

## **How could P342 impact on different types of participants and influence their behaviour?**

The Workgroup discussed the impact of P342 on different participants. Some members noted that large embedded generation portfolios within Supplier BM Units are largely invisible to National Grid as they are not required to submit FPNs. Therefore, some Workgroup members felt that P342 could be detrimental to competition because it could be seen to favour some participants rather than others.

One respondent to the Assessment Consultation noted that large embedded generation portfolios of more than 50MW are notified to National Grid in the form of FPNs. The respondent also noted they are not invisible to National Grid, but National Grid has chosen not to make use of the data and/or enforce the rules.

The Workgroup advised that, if trading took place closer to real time, the embedded generators would have a chance to get more information, trade and re-dispatch, changing their initial position. In contrast, generation BM Units (which are obliged to send their FPNs at Gate Closure) will not be able to deviate from their notified physical output without any System Operator instructions (e.g. via a Bid or an Offer).

The Proposer noted that some Trading Parties are not part of the Balancing Mechanism and they can, at present, adjust their position after the Gate Closure irrespective of the outcome of P342. They added that there are already potential disruptions in the system and incentives to deviate from the initial position. Some Trading Parties already have the ability to self-dispatch (such as embedded plants with the ability to vary their output). Therefore, the Proposer believes P342 will not create a massive change in this sense, but it will allow Trading Parties to have price certainty, e.g. by trading volume at a set price rather than spilling and being paid at the imbalance price. In addition, on the retail side communication will be improved and Trading Parties will be able to better forecast their position.

Another Workgroup Member queried how P342 may impact on the activities of Power Exchanges. Members felt that it was likely Power Exchanges would remain open longer in line with the new submission deadline, closing 15 minutes before the new deadline (e.g. under the Proposed Modification a Power Exchange may choose to stay open until 15 minutes after the end of the Settlement Period). The Workgroup encouraged Power Exchanges to provide this information as part of their response to the question on how P342 would impact on Trading Parties (see Section 4).

The Workgroup also noted that small generators are not required to submit FPNs. They can use demand side management, for instance for health and safety reasons, and decrease their generation.

Two respondents to the Assessment Consultation noted that the Workgroup should discuss more in depth the impact of P342 on smaller Parties.

The Workgroup discussed the idea that, since smaller parties trade only during working hours, the Proposed Solution could favour larger and vertically integrated Parties that trade on a 24/7 basis. They then discussed whether smaller Parties could be encouraged to change their business model and physical output. One Workgroup attendee, who represented smaller Parties at the meeting, confirmed that, currently their customers did not require them to do so. One Workgroup member added that, if larger Parties choose to invest more in expertise compare to smaller Parties, this should be considered a valid competitive advantage.

## **Is P342 compatible with the draft European Network codes?**

The Workgroup discussed whether this Modification would be compatible with the Draft European Network Codes (ENCs). In particular, the Workgroup noted a potential interaction between P342 and the Trans-European Replacement Reserves Exchange (TERRE) Project under [P344 'Project TERRE implementation into GB market arrangements'](#). However, P344 is currently under assessment and we cannot make an assumption on their interaction before a decision on this Modification will be made. Overall, the Workgroup agreed that, at this stage, they cannot clearly understand the compatibility between Project TERRE and P342.

The Workgroup also discussed the Cross Border IntraDay (XBID) Project, associated with CACM. National Grid is currently exploring the impacts of this on its existing operations and

also the interactions with future changes as a result of the Balancing Code. However, XBID is expected to require some changes to when ECVNs can be submitted. Under the current proposals, XBID trading would cease one hour ahead of real time. There would then be a five minute window to validate all the trades submitted through XBID, then a 15 minute window to submit the relevant notifications. This would imply that the ECVN submission deadline would need to be at least 20 minutes later than currently to facilitate this. The Workgroup agreed by majority that the proposed change under P342 may align well with the XBID changes as it would remove a problem it would otherwise have encountered, in particular that Parties would struggle to take full advantage of the increased trading window as the time available to them to notify their trades would be compressed.

## Should P342 also extend the deadline for MVRNs?

Members observed that MVRNs tend to be submitted once on an 'evergreen' basis and only updated should the relevant BM Unit change ownership. Therefore, the Issue 61 Group had felt it better to leave out MVRNs from the Proposed Modification solution, believing it would be more pragmatic to focus only on ECVNs under P342. However the Central impact assessment responses indicated that it would actually be cheaper to also include MVRNs under P342 as it required a less complex change to the ECVA system.

One member noted that, if the deadline for submitting MVRNs is moved to 60 minutes after the start of the relevant Settlement Period, there is a possibility that they could be applied retrospectively. In this case, there will be an increased risk of error due to a possible reallocation of the volume.

Six respondents to the Assessment Consultation did not have a response to this potential issue and four respondents believe there will not be any Settlement risk associated with including MVRNs in the solution of P342.

Conversely, one respondent noted that this would increase the risk of Settlement errors. Another respondent believes P342 should be restricted to just ECVNs at this time because there are not strong arguments that a change to MVRNs would be required or provide any benefit. The Workgroup concluded that the case is that including the MVRNs in the solution will result in much cheaper central costs.

## What is the appropriate deadline to set?

The Workgroup discussed other potential timings for the contract notification deadline.

At the first Workgroup meeting a Workgroup Member proposed to set the contract notification deadline to 15 minutes after the end of the Settlement Period. They noted that the indicative imbalance price, which is generally accurate, is published about 22-23 minutes after the end of the Settlement Period<sup>2</sup>. Once this price is set, there is no point in continuing to trade. The Workgroup Member added that 15 minutes would allow Trading Parties to send their contract notifications before the indicative imbalance price is published. However, the central impact assessment showed that, in order to avoid substantial ECVA changes and costs, the deadline would need to be on the hour or the half-hour. As a consequence, the Workgroup decided to no longer consider this option.

<sup>2</sup> The indicative imbalance price is published within the Continual Acceptance Duration Limit (CADL) plus 15 minutes of the end of the Settlement Period. CADL is currently set to 15 minutes, meaning the indicative imbalance price is published within 30 minutes of the Settlement Period ending.

## Alternative Modification

At the first Workgroup meeting some members noted that if Trading Parties are allowed to trade in the real time dispatch period, there could be unintended consequence. The Issue 61 Group had agreed that, if the existing Gate Closure is left in place for Grid Code notifications (such as FPNs or Bids and Offers) and only ECVNs and MVRNs were allowed to be submitted later, this should not cause any issues for National Grid in balancing the system. However, some Workgroup members raised a concern that the Proposed Modification solution may allow some Parties to benefit through trading from the effects of their own imbalance. Additionally, they were concerned that trading within the Settlement Period could impact the security of supply. Therefore, a few Workgroup members proposed to consider an Alternative Modification to set the final ECVNs and MVRNs submission deadline to the start of the Settlement Period.

Although the majority of the Workgroup agreed not to raise an Alternative Modification, we included a question in the Assessment Consultation to consider whether the potential Alternative Modification should be raised.

Five respondents to the Assessment Consultation believe that the potential Alternative Modification would better facilitate the Applicable BSC Objectives compare to the Proposed Modification and, therefore, should be raised. Four respondents disagree.

One respondent noted that the Alternative Modification would maintain the fundamental principle of matching the notifications no later the start of the delivery. Another respondent noted that the Alternative Modification would avoid the potential risk to security of supply and the need to delay the publication of the cashout price.

One respondent disagreed that the Alternative Modification better facilitates the Applicable BSC Objectives. The respondent believes the potential Alternative solution would be only a small improvement on the current baseline. The publication of the indicative imbalance price is what is likely to put a stop to trading as that is around 20 minutes after the end of the Settlement Period. To make a meaningful difference, the final ECVN submission deadline would need to extend at least up until that point.

The Proposer disagrees that P342 will have an impact on security of supply as the Proposed Modification will:

“allow a generator to lock in a positive spread from self-dispatch, as opposed to making a call on the cashout price when making the dispatch decision. Given that the market price should be converging towards the cashout price as the time before the cashout price is published, the difference to dispatch patterns as a result of this modification should be minimal. Customer demand could be similarly dispatched, although this is currently a very small portion of the overall market, and thus unlikely to have a material impact on security of supply”.

The Proposer also believes that the incentive on Parties in this case would be to make the System more balanced allowing to increase generation or reduce demand when the System is undersupplied, and vice versa.

At the third Workgroup meeting, the Members discussed the Consultation responses, reconsidered the previous view that an Alternative Modification should not be raised, and agreed by majority that the potential Alternative Modification should be raised.

Some Workgroup members noted that, although it is difficult to predict the future behaviour of Parties, the possibility of trading after Gate Closure can boost changes from expected levels of demand and generation. This can increase the cost of balancing and lowering the efficiency of the system. They added that P342 could under certain conditions create an opportunity for some Parties to manipulate the market and voluntarily create a position of imbalance in order to dispatch.

## **Workgroup's conclusion**

By majority, the Workgroup agreed with the Proposer that, by extending the ECVN and MVRN submission deadlines, there is an opportunity for Trading Parties to obtain more information on their position as more information becomes available closer to real time. This can help to reduce their balancing exposure. In addition, Half-Hourly (HH) metering could provide benefit further down the line if Trading Parties were able to obtain real time Meter reads. This could allow Trading Parties to monitor their positions in real time and better enable them to act accordingly.

A slight majority of the Workgroup agreed that the Alternative Modification should be raised to avoid potential impact on security of supply.

One Workgroup member noted that both solutions will favour non-BM Unit parties which plants do not have to follow FPNs. They will enable these parties to both trade and re-dispatch in real time and encourage the volume of embedded plant to short term re-dispatch outside of the control of the System Operator. Therefore, this member believes that neither Solution should be approved.





### What are the Applicable BSC Objectives?

(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

(d) Promoting efficiency in the implementation of the balancing and settlement arrangements

(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

(f) Implementing and administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

## Does P342 better facilitate the Applicable BSC Objectives?

The Workgroup unanimously agreed with the Proposer that P342 will better facilitate Applicable BSC objective (c) compared to the current baseline by allowing a more efficient and effective transfer of risk and providing the potential to increase market liquidity.

In addition the majority of the Workgroup agreed that P342 will potentially better facilitate Applicable BSC objective (e) if the European Regulations will require, in the future, a change to Gate Closure for contract notifications.

Due to the potential risk associated with security of supply, six members felt that the potential Alternative solution Modification would better facilitate Applicable objective (c) and (e) compared to the Proposed Modification, while four members felt that the Proposed Modification was the better option.

## Assessment Consultation respondents' views

Eight respondents to the Assessment Consultation believe that P342 will improve competition in the Great British electricity market and hence better facilitates Applicable BSC objective (c) by allowing a more efficient and effective transfer of risk and providing the potential to increase market liquidity. One respondent noted that if ECVNs and FPNs are independent of each other, the ability of market participants to submit their final ECVN before during or after delivery, would permits greater self-balancing leading to greater efficiency in the market.

Another respondent noted that the main benefit of the Proposed Solution will be to allow Parties to trade closer to real time. This should provide an opportunity for Trading Parties to obtain more accurate information on the anticipated cash-out price and their metered positions. One respondent noted that moving ECVN submission deadline could allow Parties to trade a little longer and trade out unexpected positions which could promote BSC Objective (c). However it could also be detrimental to competition through favouring certain types of Parties.

One respondent believed that P342 will incentivise Parties to significantly change their physical position within Gate Closure or in real time compared to what currently happens, causing operability issues. Therefore, this would be detrimental to Applicable BSC objective (b).

Another respondent believes that P342 would be detrimental to the BSC Objective (c) by introducing an additional advantage to non-BM embedded generators who are not obliged to submit FPNs by Gate Closure. One respondent added that there is the potential for negative impact under BSC Objective (b), (c) and (d) if Parties would be able to, post event, resolve their imbalance positions. This may undermine the punitive consequences to Parties of being in a position of imbalance and could provide a significant advantage to larger Parties.

You can find the full responses received in Attachment G.

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Final Modification Report

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### Panel's view on P342

A Panel Member commented that P342 was a good proposal to increase liquidity and asked how the Workgroup envisaged this happening in the process. ELEXON noted that the Workgroup accepted that, although P342 would not necessarily increase liquidity but move the time that trades happen, it would be possible to identify how much volume is left over in the market at Gate Closure which could be traded in real time.

A Panel Member commented that the Assessment Consultation questions in relation with the Alternative Modification were badly worded and caused confusion. ELEXON noted this and agreed to review the questions for the Report Phase Consultation.

The Panel Member also noted that the Workgroup discussion about benefits to small parties was detailed but that the Workgroup did not include any small parties or embedded generators. ELEXON noted it worked to actively involve BSC smaller Parties in the Workgroup but noted that embedded generators are not BSC Parties.

A Panel Member noted that small traders and generators are broadly in favour of the opportunities that they see P342 giving them.

Another Panel Member noted that a more defined breakdown of embedded generation was required as P342 was only relevant to a small number of them. Saying that P342 would benefit all embedded generators was a slight exaggeration. ELEXON recognised the issue but noted that it was constrained by the existing definitions.

A Panel Member asked ELEXON to analyse the behaviour of embedded generators over a range of dates before and after the Single Imbalance Price was introduced. ELEXON confirmed that it will include this analysis in the Draft Modification Report (see Appendix 2).

A Panel Member was broadly supportive of the objectives of P342 but was concerned about the proposed Implementation Date. He noted that the Workgroup discussed the potential risk to security of supply and agreed with its conclusion that the risk is greater under the Proposed Modification. ELEXON noted that this was the reason why the Workgroup felt that P342 should not be treated as a Self-Governance Modification.

Another Panel Member felt that P342 actually had the potential to improve security of supply, noting that Parties can already generate after Gate Closure if they are not in the BM. If these Parties were able to trade as an alternative to generating, they may reach more efficient outcomes though having options other than just trying to forecast the cashout price. This would level the playing field between non-BM generators and Parties in the BM who can trade with the System Operator. Suppliers may also seek to trade to cover shortfall as an alternative to dispatching embedded generation to offset demand. For this reason, the Panel Member believed that the Proposed Modification is better than the Alternative as it introduces alternative options for embedded generators.

### Panel's conclusion

The BSC Panel agreed by majority that P342 Proposed Modification and Alternative Modification do better facilitate Applicable BSC Objective (c) and (e) compared to the current baseline. The Panel also agreed with the Workgroup that the P342 Alternative Modification is better than the P342 Proposed Modification due to the potential risk

associated with the security of supply. Therefore the Panel initially recommended that the **P342 Alternative Modification should be approved** and the P342 Proposed Modification should be rejected. The Panel agreed with an initial Implementation Date for the Alternative Modification of 2 November 2017 as part of the November 2017 BSC Release and agreed with the draft legal text for both Solutions.

## 9 Report Phase Consultation Responses

This section summarises the responses to the Panel's Report Phase Consultation on its initial recommendations. You can find the full responses in Attachment H.

Summary of P342 Report Phase Consultation Responses				
Question	Yes	No	Neutral/ No Comment	Other
Do you agree with the Panel's initial recommendation that the P342 Proposed Modification should not be approved?	10	4		
Do you agree with the Panel's initial recommendation that the P342 Alternative Modification should be approved?	7	7		
Do you agree that there are no other potential solutions that fall within the scope of P342 that would better facilitate the Applicable BSC Objectives compared to the Proposed or Alternative Modification?	13	1		
Do you agree with the Panel's initial view that the proposed redlining delivers the intention of the Proposed Modification?	11		3	
Do you agree with the Panel's initial view that the proposed redlining delivers the intention of the Alternative Modification?	9		5	
Do you agree with the Panel's recommended Implementation Date?	11	3		
Do you agree with the Panel's initial view that P342 should not be treated as a Self-Governance Modification?	14			
Do you have any further comments on P342?	5	9		

### Respondents' view on the Proposed solution

Ten of fourteen respondents to the Report Phase Consultation agreed with the Panel recommendation that the P342 Proposed solution should be rejected.

Four respondents disagreed. One respondent noted that National Grid previously believed that there were not issues related with security of supply. The respondent questioned the reason why the Panel made this recommendation.

Another respondent noted that both P342 Proposed and Alternative solutions better facilitate the Applicable BSC Objectives. However, the Proposed Modification better promotes Applicable BSC Objective (c). The Proposed solution will increase the liquidity of the market, which will reduce the effective bid-offer spread available to parties close to real time by enabling trading to continue. ELEXON's analysis has identified that there is a substantial volume of imbalance across the industry at Gate Closure which could be traded. In addition, the cost of enabling this change within the BSC systems is very low. The respondent further believes that this Modification could promote Objective (e), in the

event that the European Regulations require, in the future, a change to Gate Closure for contract notifications.

One respondent noted that both Proposed and Alternative solutions pose significant risks to security of supply. They will provide an increased incentive for parties to vary their output or (embedded) physical positions post PN. This can result in system balancing issues for the System Operator and consequently, higher balancing costs. In addition, the respondent noted that additionally external analysis appears not to support the proposition that the Proposed or Alternative solution will improve liquidity of the market or competition. Another respondent noted that P342 will likely spread the liquidity out over a longer period. This will act to adversely affect smaller trading parties who may not have a dedicated 24/7 trading desk and will attempt to balance their position ahead of time.

Two respondents noted that if trading will continue up until a point where the indicative imbalance price has been published, this will not 'allow efficient and effective transfer of risk'. In fact, if the cashout price is known, there is no reason why any parties would want to trade at anything other than the cashout price. Another respondent agreed that parties will not be able to transfer imbalance risks after indicative cashout prices are published.

One respondent also noted that, since is not yet known the outcome of the European Network Code, it is irrelevant to discuss a potential promotion of Applicable BSC Objective (e). The respondent also believes that P342 will not increase the liquidity in the market but it will split existing pre Gate Closure liquidity into two parts. The first part will be before Gate Closure, which relates to BMU plant having to submit FPNs, and the second part after Gate Closure.

One respondent noted that the Proposed Modification will better facilitate Objective (c), but in a less efficient way compared to the Alternative Modification. Two respondents also noted the concerns and uncertainty regarding the impacts of the Proposed Modification on security of supply and, therefore, the Alternative Modification would appear a lower risk solution.

Four respondents noted that moving the ECVN submission deadline should be positive in allowing parties to trade a little longer enabling the trading out of unexpected positions. However there could be a detriment to competition in favouring parties who do not have to submit FPN. Nevertheless, in principle allowing ECVN and MVRN submission to be delayed might increase liquidity, which would be beneficial under Objective (c), and potentially also Objective (e).

## **Respondents' view on the Alternative solution**

Seven respondents agreed that the Alternative solution should be approved, while seven respondents disagreed. However, four of the seven respondents disagreed on the basis that the Proposed solution is better. These four also indicated in their responses that, in light of the Panel's recommendation, the Alternative would be an acceptable outcome as it is better than the current baseline.

Three respondents believed that, even if the Alternative solution is slightly preferable to the original, neither is better than the current situation. Of these, one respondent noted that the Alternative solution does not adequately address the risks and economically balance the system. Parties will still have an added incentive to vary their physical positions post PN and therefore the Alternative solution should be rejected.

Two respondents noted that the Alternative solution will allow parties to better forecast their positions and trade imbalance volumes between the willing counter-parties before delivery. This will promote effective transfer of risks and improve self-balancing behaviours without imposing security impacts on system operation within Settlement Periods. The respondent also noted that it is crucial that APX Power Exchange reconfigures its intraday Gate Closure times to facilitate the solution. The benefits of P342 cannot be realised without coupling intraday market and ECVN Gate Closure.

One respondent noted that the arguments raised in favour of the Alternative solution are based on the concern around the ability of National Grid to manage the System. The respondent believes that it is currently possible to predict the System direction and System Prices with a reasonable certainty. This gives parties with small generation and flexible consumers the same ability to change their generation patterns under the baseline arrangements. The respondent suggested that the question of the controllability of embedded generation should be considered separately from this Modification.

Twelve respondents agreed that there are no other potential solutions that would better facilitate the Applicable BSC Objectives compared to the Proposed or Alternative Modification. One respondent disagreed because the Applicable BSC Objectives (b) and (c) are better served by the existing mechanism.

## **Respondents' view on the proposed Implementation Date**

Three respondents disagreed with the proposed Implementation Date.

One respondent noted that P342 could result in security of supply risks and increased balancing costs. P342 should be implemented post-Winter 17/18 and aiming for April 2018 to allow some time for the impacts to be analysed and managed.

One respondent noted that P342 should not be implemented at all.

One respondent noted that P342 Alternative solution can add significant value and therefore should be implemented sooner than the recommended date.

## **Further comments on P342**

One respondent added that each of their customers would be required to change systems under P342 to facilitate the change in ECVN and MVRN submission deadline. The respondent did not believe there is a significant extra burden placed on them for being an Interconnector User compared to a standard market participant.

One respondent noted that one respondent to the Assessment Procedure Consultation believes that there is the potential for a negative effect against the Applicable BSC Objectives if a party is able to avoid the punitive consequences of being in imbalance. The respondent to the Report Phase Consultation noted that the cashout mechanism is not designed to be punitive, rather to reflect the marginal costs incurred by the System Operator in balancing the System.

### Panel's view

One Panel Member believes that neither the Proposed solution nor the Alternative solution will have an impact on security of supply. The Panel Member noted that trading closer to real time will improve the security of supply through more certainty of information. Both solutions would encourage flexibility and new thinking.

The Transmission Company Representative noted that under the Proposed solution there is an incentive for Parties to change their output. As a consequence, the demand management can intensify and affect the ability of the System Operator to balance the system. However, the Transmission Company Representative saw this as a minimal issue.

A Panel Member noted the only difference between the Proposed Modification and the Alternative Modification is the timing of the deadline. The Panel Member asked what impact of deadline being at the start of the Settlement Period or 60 minutes after the start of the Settlement Period could have on the indicative price. ELEXON responded that there is no impact on the indicative price. This was chosen because the deadline needs to be on the hour or half hour to avoid substantial ECVA changes or costs.

A Panel Member noted that there was a possibility of wholesale and imbalance pricing becoming 'spikey'. Another Panel Member agreed that this was a possibility if the deadlines were too close to Gate Closure. The Transmission Company Representative clarified that there would be no change to imbalance pricing as a result of this Modification.

The Panel agreed by majority that the Alternative Modification is better than the Proposed Modification and should be **approved**.

## 11 Recommendations

The BSC Panel recommends to the Authority:

- That the P342 Alternative Modification should be **approved** and that the P342 Proposed Modification should be **rejected**;
- An Implementation Date for the P342 Proposed Modification of 2 November 2017;
- An Implementation Date for the P342 Alternative Modification of 2 November 2017;
- The BSC legal text for the P342 Proposed Modification; and
- The BSC legal text for the P342 Alternative Modification.



## Appendix 1: Workgroup Analysis

This Appendix summarises the results of the analysis undertaken by ELEXON on behalf of the Workgroup to assess the potential impacts of P342. The Workgroup asked ELEXON to undertake two distinct pieces of analysis:

1. Investigating Imbalance Volumes by Trading Control Group to understand level of potential liquidity; and
2. Investigating the impacts of changes to the Credit calculations on credit requirements of BSC Trading Parties.

### Analysis Piece 1 – Imbalance Volume by Trading Control Group

#### Background

The Workgroup acknowledged trading liquidity as a key issue in order to confirm the rationale of the proposal. If there is insufficient liquidity, then extending the deadline for trading is unlikely to result in a material reduction in Imbalance Volumes, as Parties with residual volume to trade may be unable to find counterparty. This situation may arise if for example, in a given Settlement Period, many Parties are long (and could sell this excess after Gate Closure) but few Parties are short.

The Workgroup asked ELEXON to investigate how much volume is left over at the Gate Closure that can have been traded by the Parties. These volumes should be net of Production and Consumption Energy Accounts and given that some organisations hold multiple BSC Party Ids.

#### Analysis requirements

The Workgroup confirmed the following requirements for this analysis:

- Imbalance volume (Production and Consumption Energy Accounts netted);
- For each Settlement Period;
- Split by sum of Long volumes and sum of Short volumes;
- Aggregated by Trading Control Group (groupings from P282 analysis); and
- Data to span from May 2015 to April 2016.

The results are not confidential, since the data used for the analysis appears in the SAA-I014 Settlement reports which are sent to all parties (and any Party could therefore recreate the results).

#### Further analysis

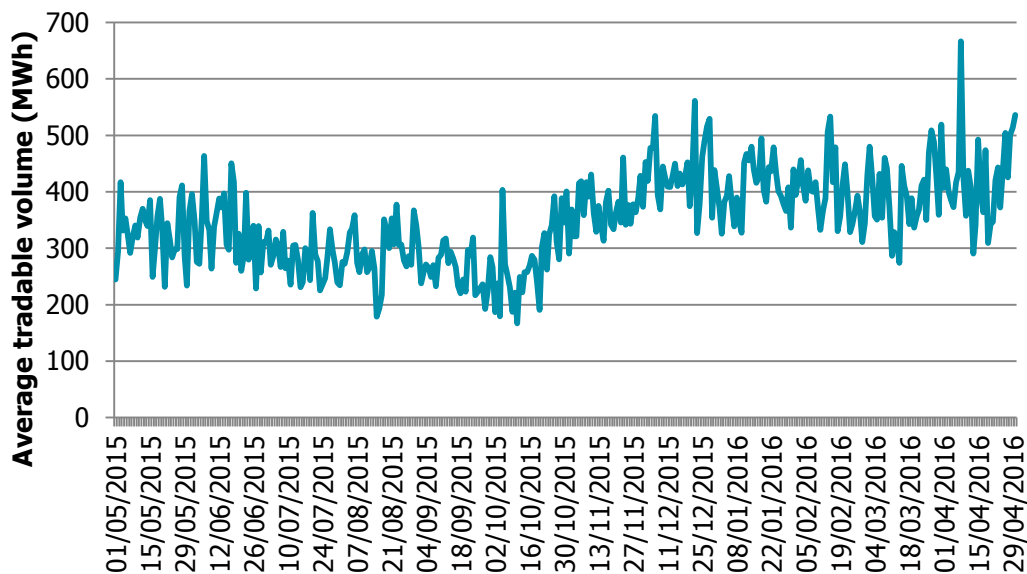
At the second Workgroup meeting, a member advised that a summation of long and short Imbalance Volumes does not provide a fair indicator of liquidity as trading will only realistically occur when there is both long and short volume (i.e. a seller and a buyer). Therefore taking the minimum of long and short Imbalance Volume for each Settlement Period instead would provide an indicator of what volume was tradable.

In addition, at the second Workgroup meeting a representative of EPEX Spot offered APX intra-day market exchange data for comparison with ELEXON's Imbalance Volume data.

As the Workgroup felt this analysis to be more relevant, the section covers the further analysis first, followed by the original analysis.

### Further analysis - Daily average of tradable volume

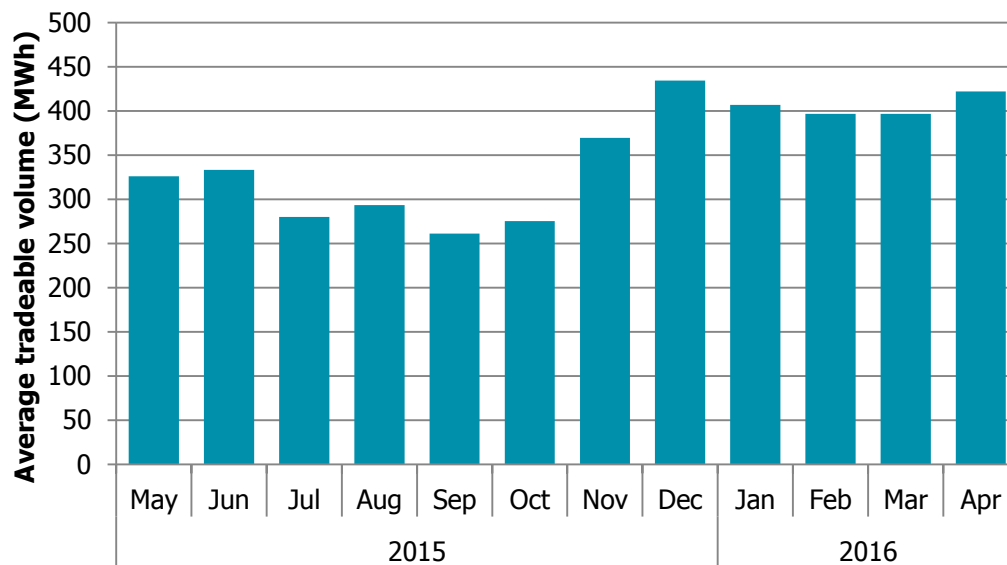
The graph below is the product of further analysis undertaken following feedback at the second Workgroup meeting. It shows the daily average of the absolute minimum of market-wide long and short Imbalance Volume in each Settlement Period. Due to the volume of data, and issues around allocating the impact of netting, this analysis does not provide a breakdown by Trading Control Group/Party Id.



The analysis shows an average tradable volume over the period of 349 MWh, ranging from 166 MWh on 11 October 2015 to 666 MWh on 8 April 2016. The Workgroup expressed an initial view that, provided Imbalance Volumes are a fair indicator, this represented a good level of liquidity.

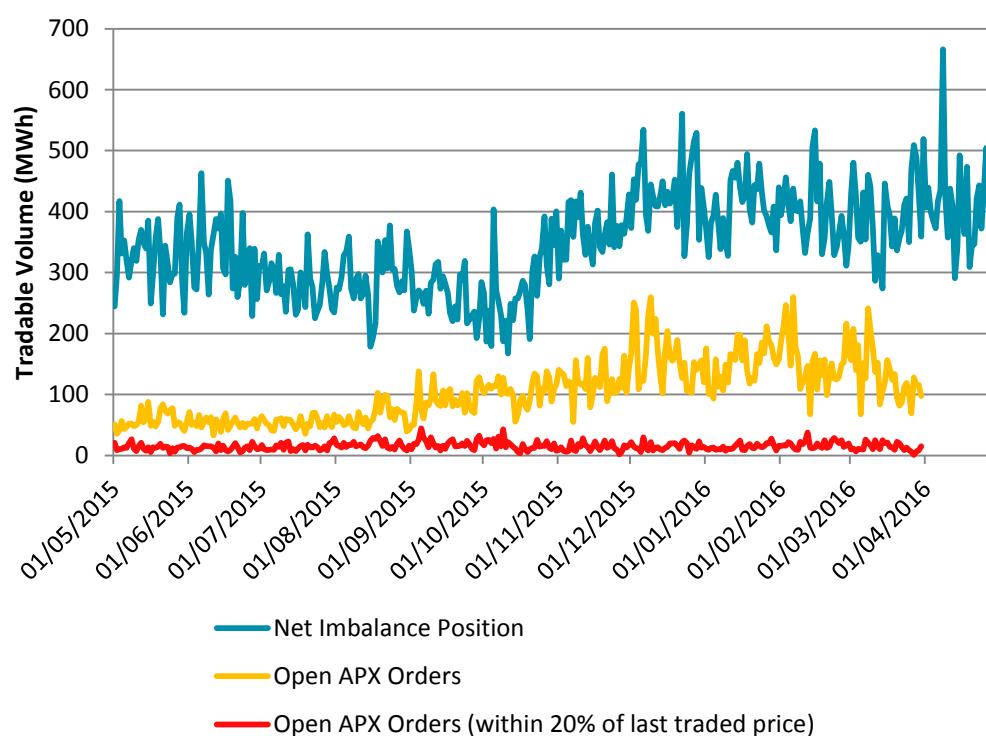
## Further analysis - Monthly average of tradable volume

The graph below shows a monthly average of the data in the previous graph.



## Further analysis – Daily average of tradable volume (Imbalance and APX data)

The graph below shows the Daily average of tradable volume (labelled 'Net Imbalance Position' below) alongside APX data from EPEX Spot. The APX dataset consists of buy and sell trade orders that were open as at Gate Closure for each Settlement Period. ELEXON have determined tradable volume based on the minimum of the summation of buy and sell order volumes for each Settlement Period. At the second Workgroup meeting EPEX Spot advised that it may be sensible to isolate orders with a price that are within a 20% threshold of the last traded price and thereby remove outliers from the analysis. These outliers represent orders that would unlikely be met due to the order price being unattractive to the market.



The analysis shows an average tradable volume (based on open APX orders) over the period of 103 MWh ranging from 33 MWh on 11 June 2015 to 260 MWh on 9 December 2016. For tradable volume based on open APX orders within 20% of last traded price, the average over the period was 15 MWh ranging from 1 MWh on 27 March 2016 to 44 MWh on 5 September 2015.

The rest of this section concerns analysis undertaken based on the requirements defined at the first Workgroup.

## Trading Control Groups

The Workgroup agreed that the analysis should be aggregated by Trading Control Group to reflect the ability of organisations to coordinate trading across multiple Party Ids. The Workgroup noted that such grouping had been previously used in the analysis for [P282](#) 'Allow MVRNs from Production to Consumption or Vice Versa' and agreed the same aggregations should be used. These aggregations are listed below.

Trading Control Group	Party Id
_CENTRICA	ACCORD
	BRITGAS
	LINC SWFL
_DONG_STATKR	DEEM1000
	DONG001
	DONG003
	DONG005
	DONG006
	STATKRA1
_DRAX	DRAX
	HAVEN
_EDF	BEDL001
	BEPET001
	EDFETRNS
	EDFT
	LENCO
	LONDELEC
_EON	EONETRAD
	POWERGEN
_ESB	ESBIENI
	ESBIGT
_GDFSUEZ	DPDCOLTD
	ELECBEL
	FOUR
	FSTHYDRO
	GASELYS
	RWETDL
	TEESSIDE
_INTERGEN	CECL
	IPIPC
	RPCL

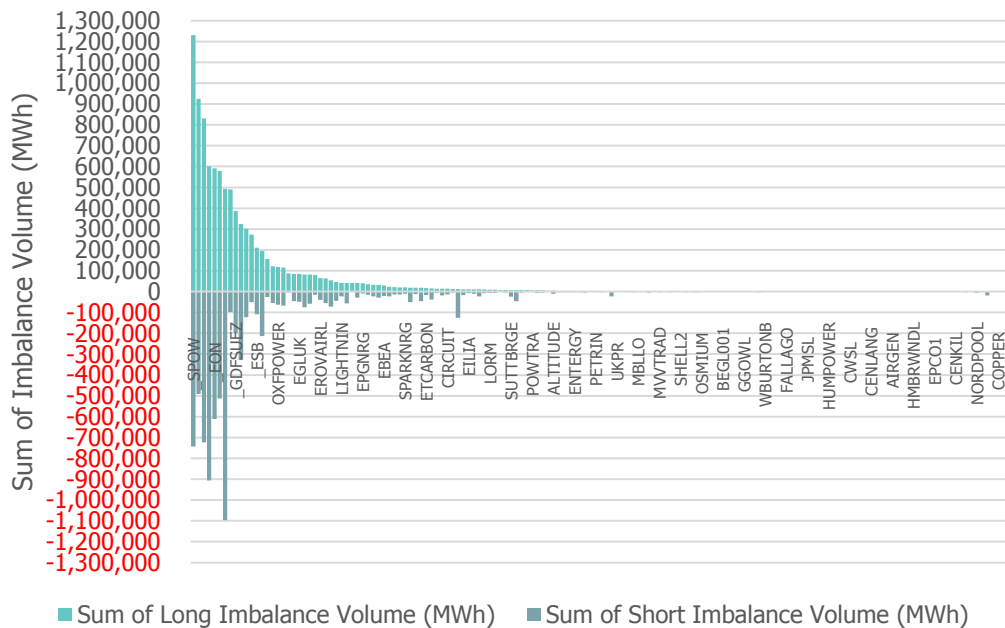
	SPAL
_KOCH	KCEL
	KOCH
_PHILLIPS	CUKL
	PH66
_RWE	INNOGY01
	NPOWER01
	RWE
_SPOW	IBERGEN
	SPCRE01
	SPOWER02
_SSE	SEABANK
	SSE
	SSEGEN
_VATTENFALL	TOW
	VTS

Trading Control Groups are made distinct from Party Ids using the `\_' prefix. For Trading Parties not in a Trading Control Group, analysis would be aggregated under that Party Id alone.

Please note that Trading Control Groups `\_KOCH' and `\_PHILLIPS' do not feature in this analysis as there was no data for the related Party Ids over the period.

### Ordered year totals of Imbalance Volume

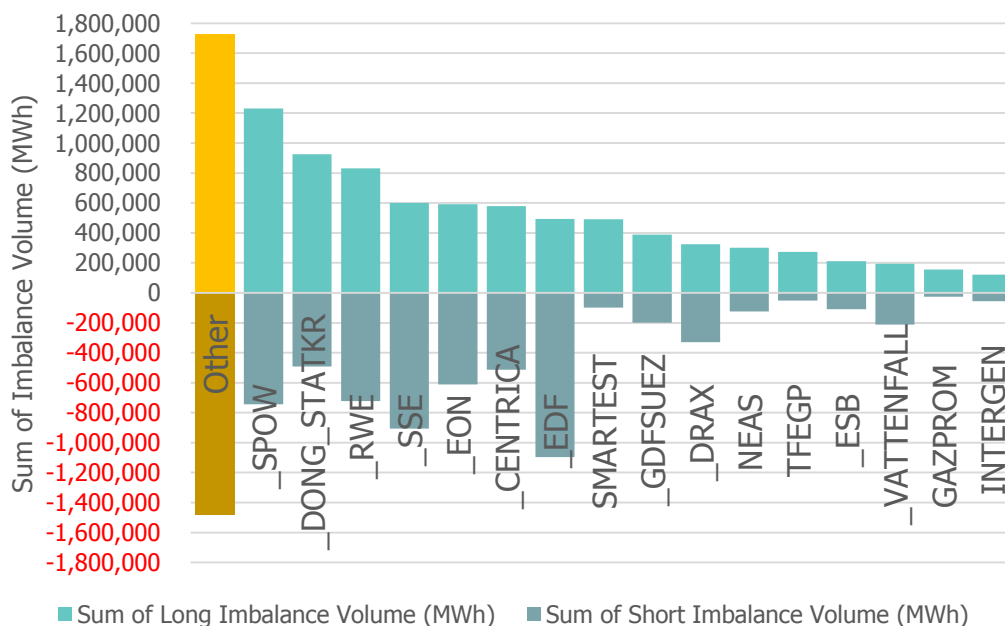
The graph below shows total long and short Imbalance Volumes for each Trading Control Group/Party over the period. The data is ordered by long Imbalance Volume.



This analysis showed that the Trading Control Groups had most of the highest Imbalance Volumes, with total long Imbalance Volume for the Trading Control Groups ranging from 1,230,737 MWh (\_SPOW) to 120,971 MWh (\_INTERGEN). Short Imbalance Volumes ranged from -1,479,216 MWh to -26,357 MWh however there wasn't a strong correlation between long and short.

## Ordered year totals of Imbalance Volume ('Other' aggregated)

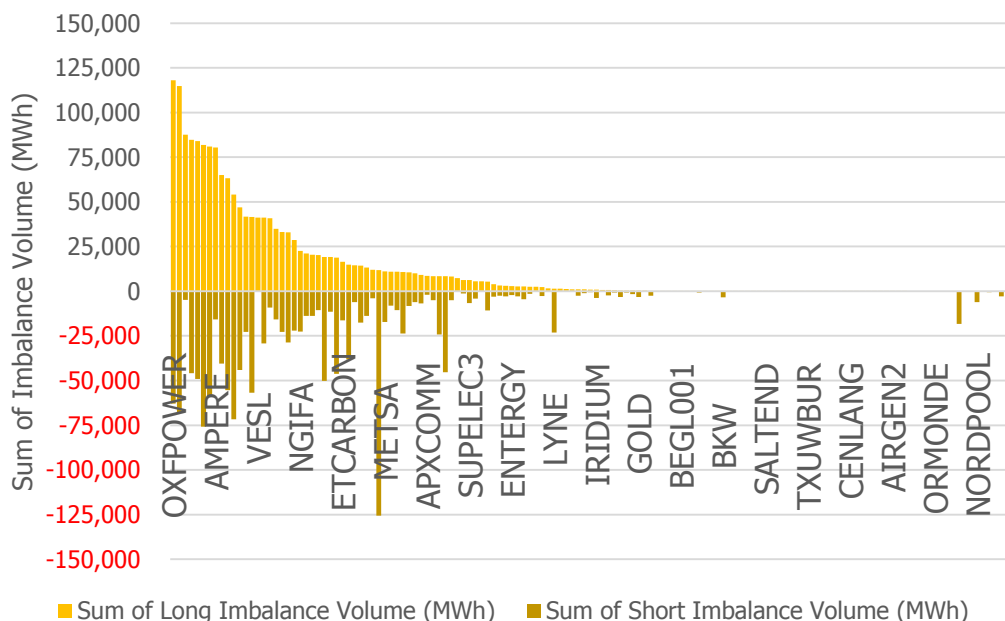
The graph below shows the same data as above, but we have aggregated Party Ids with long Imbalance volume less than the Trading Control Group with the smallest long Imbalance Volume (\_INTERGEN at 120,971 MWh).



This analysis highlighted that the 12 Trading Control Groups and four Parties made up over 81% of the total long Volume (7.7m MWh of 9.4m MWh total) and over 80% of the total short volume (6.3m MWh of 7.8m MWh total).

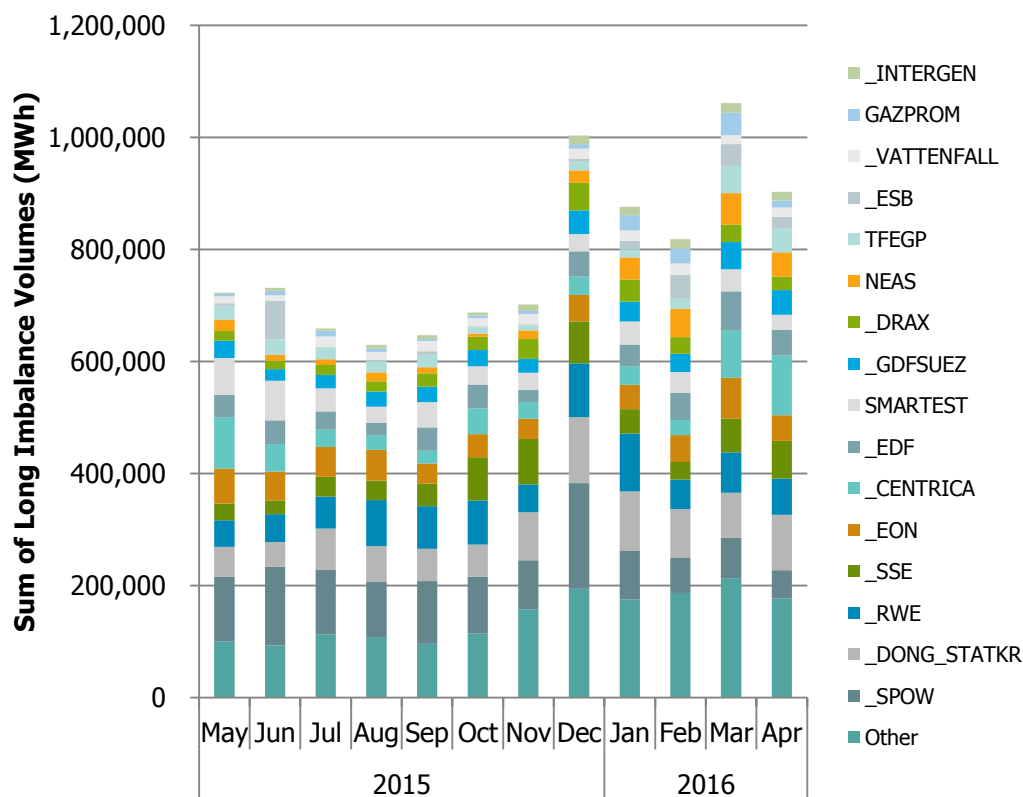
## Ordered year totals of Imbalance Volume ('Other' only)

The graph below shows the same data as above but only for the Party Ids that were aggregated under 'Other'.



## Long Imbalance Volumes by month

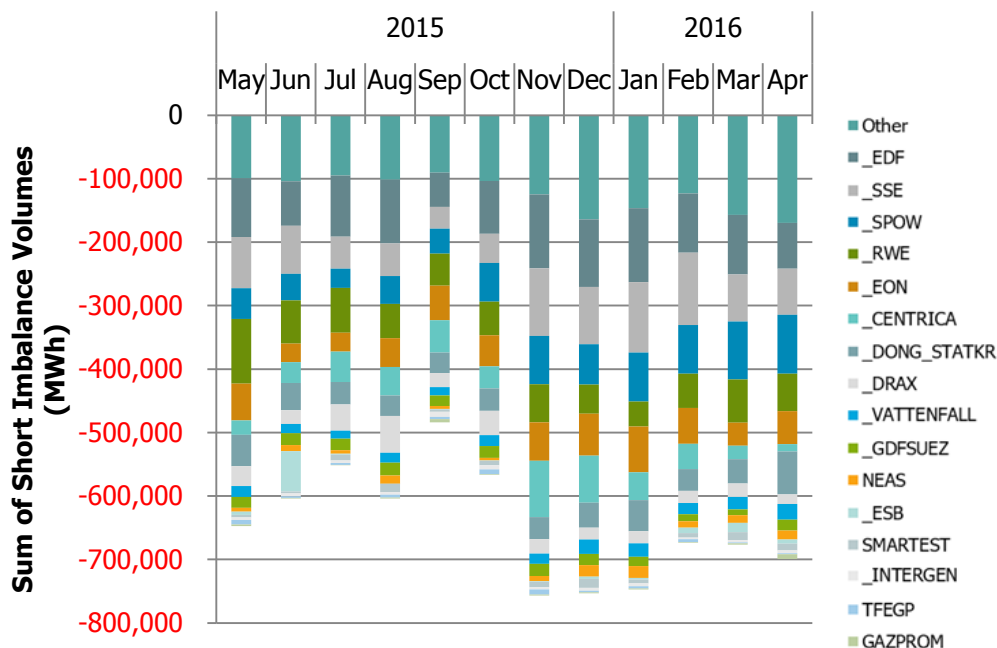
The graph below shows the summation of long Imbalance Volumes for each Trading Control Group/Party Id by month. Please note that this graph uses the same aggregation of Party Ids with long Imbalance volume less than the Trading Control Group with the smallest long Imbalance Volume.



This analysis shows that long Imbalance Volumes were higher in the winter period. This could be due to unexpected differences from anticipated seasonal variations (i.e. winter 2015 was warmer than expected) or it could be due to the introduction of P305 which had various impacts on trading and imbalance management.

## Short Imbalance Volumes by month

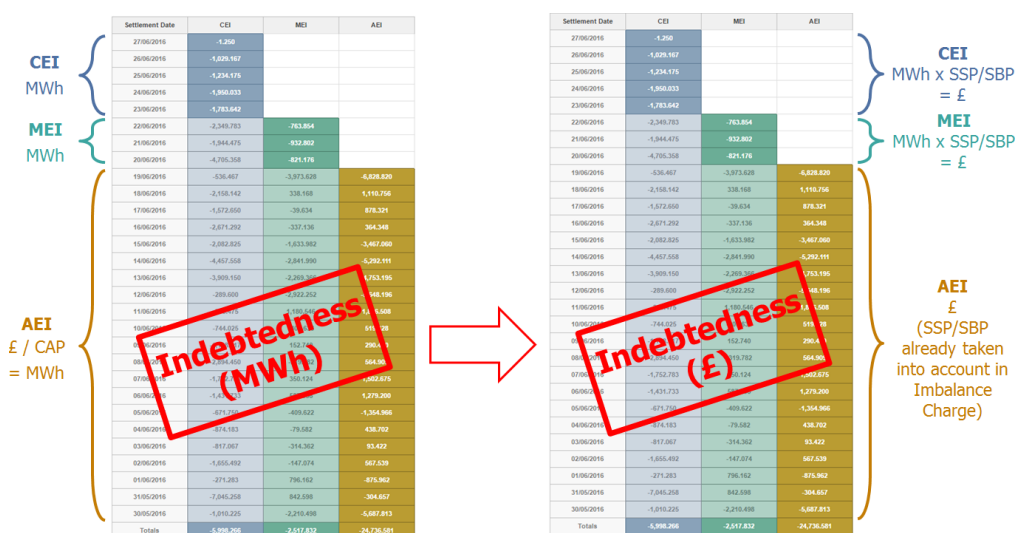
The graph below shows short Imbalance Volumes for each Trading Control Group/Party Id by month, with the same aggregation.



This analysis shows a positive correlation with the summation of long Imbalance Volumes, such that as Trading Control Groups/Party Ids had higher long Imbalance Volumes in the winter season, they also had higher short Imbalance Volumes. This may suggest that Trading Control Groups/Party Ids were less able to manage their imbalance in the winter, or it could be a product of the seasonal increase in overall generation/consumption.

## Analysis Piece 2 – Imbalance prices instead of CAP

The Workgroup also discussed the possibility of changing the Credit calculation to utilise 'BM' indicative Imbalance Prices. These would be available if the Credit calculation took place 15-20 minutes after the end of the Settlement Period. The Credit calculation could then be changed to measure Indebtedness in £ rather than MWh, eliminating the need for a CAP and Credit Committee.





Although prompted by discussion of having a later ECVN deadline, this potential change is not dependent on the approval of P342 as a later change could look to delay the Credit calculation until 'BM' indicative Imbalance Prices are available. ELEXON presented market-wide and example Party (anonymised) analysis at the second workgroup meeting, which demonstrated net benefit across all Party categories. The Workgroup discussed the analysis but concluded that P342 should not make any changes to the credit arrangements and that such changes could be proposed under a separate Modification. This section therefore only includes some market-wide analysis rather than the detailed analysis presented to the Workgroup.

## Analysis requirements

The analysis requirements are the followings:

- Credit requirement under current calculation;
- Credit requirement under new calculation;
- Aggregated by Trading Party category (e.g. Supplier, generator...); and
- Data to span from 5 November 2015 (introduction of single Imbalance Price) to April 2016.

Results are anonymised, since the data used for the analysis is not available to all parties. This analysis assumes a credit requirement to be the funds required to have an 80% CCP for a given level of Indebtedness (MWh).

## Analysis approach

ELEXON only holds Total Energy Indebtedness (TEI) data as at Settlement Period 48 of each day, therefore the analysis calculations were done at day granularity rather than per Settlement Period. Furthermore ELEXON do not hold a breakdown of Credited Assessment Energy Indebtedness (CEI)/ Metered Energy Indebtedness (MEI) or Actual Energy Indebtedness (AEI), and therefore we calculated AEI by summing Trading Charges and dividing this by the CAP. We determined the applicable AEI amounts for each day and then subtracted this from TEI to determine the CEI/MEI for each day. This allowed us to then apply a daily average of Imbalance Prices to the CEI/MEI and based on this; calculate the credit requirement under the 'new' calculation. The current ('old') and 'new' credit requirements were calculated as follows:

$$\text{'Old' credit requirement} = (\text{'TEI'} / 0.8) \times \text{CAP}$$

$$\text{'New' credit requirement} = ((\text{'CEI/MEI'} \times \text{'Average SBP'}) - \text{'Trading Charges'}) / 0.8$$

The analysis did not use data on credit lodged by Trading parties or attempt to calculate CCP, as this was not necessary for determining the impact on credit requirement.

## Monthly average of credit requirement

The graph below shows the monthly average of total credit requirement per Trading Party category under the 'old' and 'new' calculations.



This analysis shows that every Trading Party category would have seen some months with a lower credit requirement and some months where the requirement was higher. The 'Generator' Trading Party category had a consistently negative credit requirement, due to negative Indebtedness. In practice, negative TEI means that a Trading Party can have zero credit lodged and not enter credit default, and therefore a reduction in credit requirement (i.e. making the credit requirement more negative) would give no real benefit for the Trading Party. The analysis suggests therefore that there may be many Generators that would not benefit from this change in practical terms. The 'Supplier' Trading Party category on the other hand had positive TEI in most months and also saw the greatest % reduction in credit requirement.

## Monthly average of total credit requirement summary

The table below summarises the monthly average of total credit requirement per Party category under the current ('old') and 'new' calculations, averaged over the analysis period.

Trading Party category	Average old req. (£)	Average new req. (£)	Additional req. (£)	% Reduction
Generator	-28,602,724	-29,235,589	-632,865	2.21%
Interconnector Administrator	93,572	91,556	-2,017	2.16%
Non-Physical Trader	4,890,329	4,628,219	-262,110	5.36%
Other	-75,008	-77,279	-2,271	3.03%
Supplier	6,437,568	4,996,730	-1,440,838	22.38%

This shows an overall reduction in credit requirement for every Trading Party category of around 2-5%, with the exception of the 'Supplier' Trading Party category which sees a much greater reduction of around 22%. The workgroup considered that this could be due to the differences between the CAP and Imbalance Prices since the 5 November 2015.

## Key findings

The analysis highlighted that when the Imbalance Price is greater than the CAP then positive CEI/MEI becomes more costly under the new calculation and negative CEI/MEI becomes cheaper. This is because positive CEI/MEI represents a short position (from a credit perspective) and therefore moving to a greater price increases the credit requirement of this per MWh. Negative CEI/MEI represents a long position and therefore moving to a higher price makes the Party's long volume more 'valuable'. Conversely, when the Imbalance Price is less than the CAP then negative CEI/MEI becomes more costly under the new calculation and positive CEI/MEI becomes cheaper.

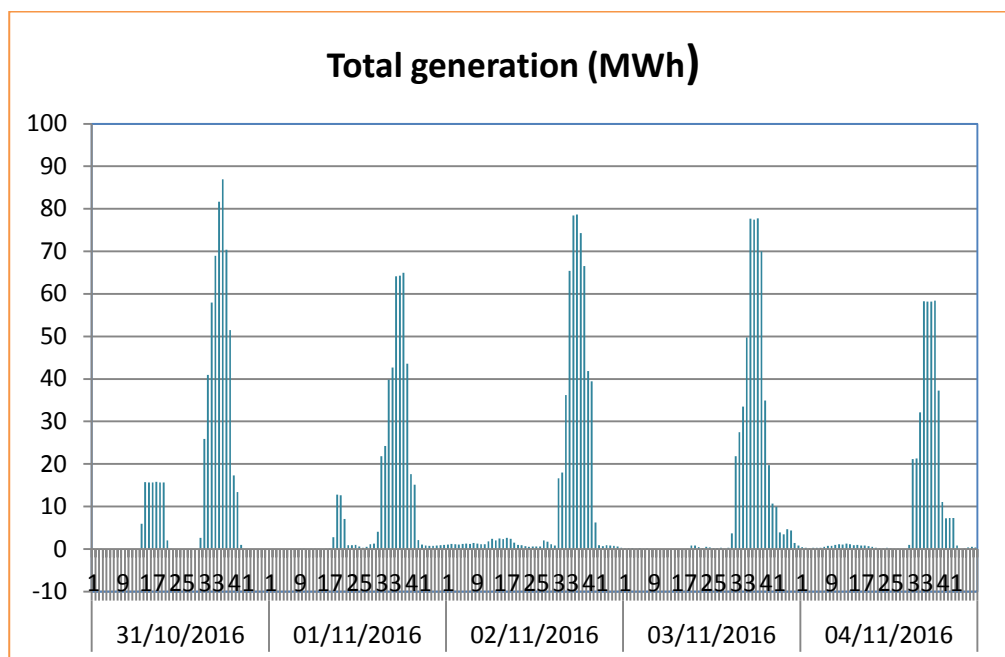
The analysis also found an overall reduction in credit requirement for every Trading Party category, with a total average reduction of £2,340,100.

## Appendix 2: Further Analysis

### Further analysis on embedded generator behaviour

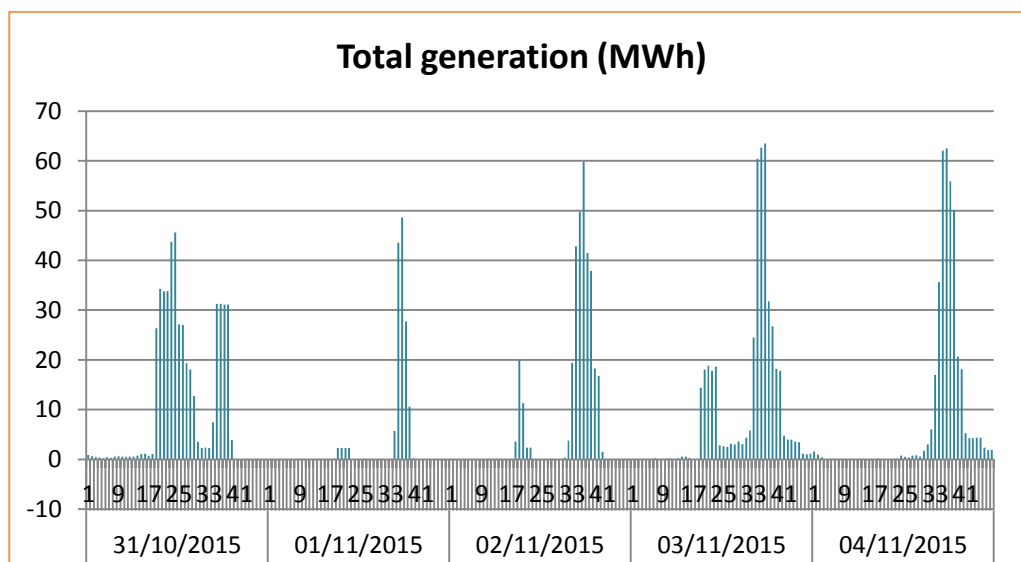
In response to the questions raised by Panel Members, ELEXON looked at a sample of embedded generators over a range of dates before and after the Single Imbalance Price was introduced. Of the 31 embedded generator BM Units Registered with the CRA, we noted that all but ten had elected to participate in the BM and submitted FPNs for the period in question. These 21 generators would only be able to deviate from their FPN submission under direct instruction from the System Operator, and so could not vary their output in response to the imbalance price.

For the ten BM Units that did not submit FPNs, we noted the following generation output over the period from 31 October 2016 to 4 November 2016.



The patterns observed across these five days, when on three of them the peak imbalance price exceeded £600/MW and on the other two were around £100/MWh, show that even a five-fold increase in the eventual imbalance price corresponded to a 10-15% increase in generation. While inconclusive, this could indicate that output can only be increased so much in response to price and that they were likely generating close to their full capacity.

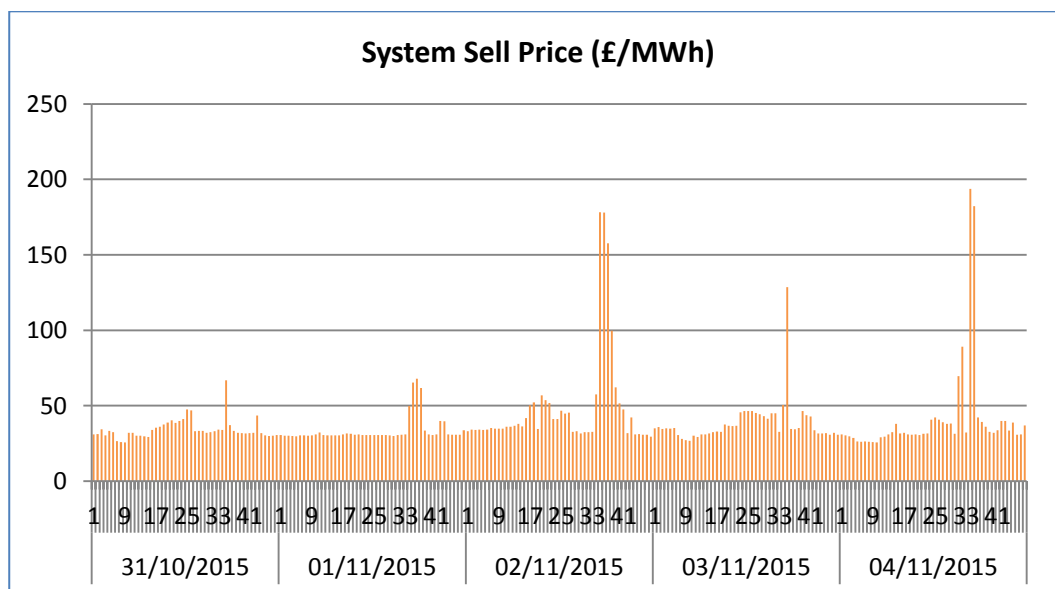
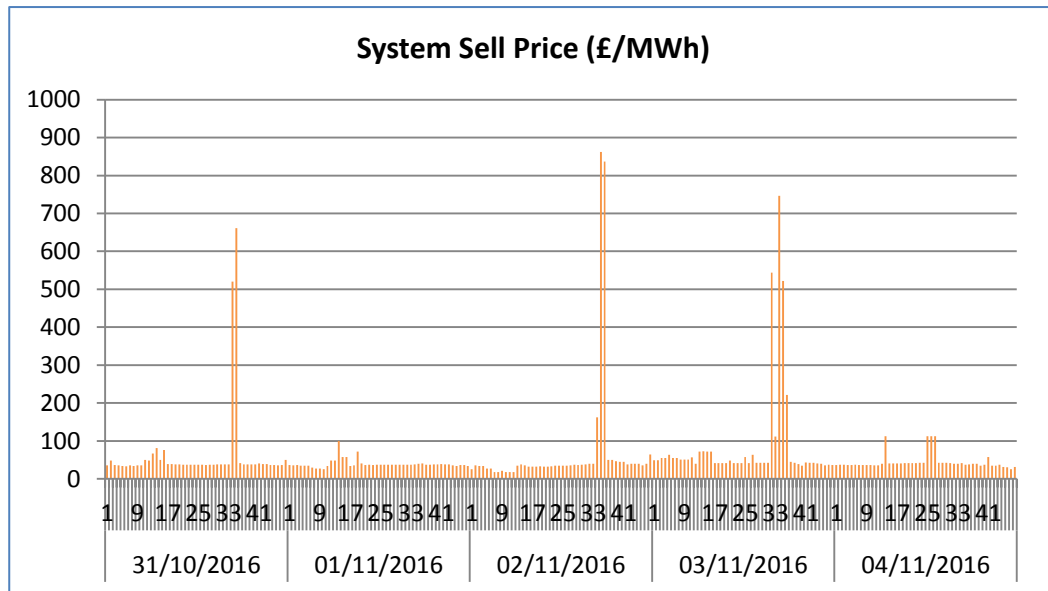
Peak generation output observed during these days in 2015 was about 20% lower:



Finally, ELEXON also looked at SVA HH export across this date range, but the available data does not allow for a similar comparison as for CVA BM Units, as it is not possible to reliably exclude wind generation. Furthermore, the netting effects between Suppliers in a Grid Supply Point (GSP) Group and across import and export Consumption Component Classes conceal individual generator behaviour in response to the imbalance price.

### System Sell Price Data for 31 October to 4 November 2016 and 2015

For completeness, the full imbalance price data series for these weeks are shown below:



### Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P342 Terms of Reference

What is the most appropriate deadline for ECVN submissions?

How may P342 impact liquidity in the market?

Should any changes be made to the Credit calculations?

- Should the Credit Cover Percentage calculation be moved in line with the new ECVN submission deadline?
- Should indicative imbalance prices be used in the Credit Cover Percentage calculation if these are available?

What impact may there be on different types of participant?

What effect may P342 have on embedded generation?

What potential changes in participants' behaviour may arise as a result of P342?

Will P342 impact the Contract for Difference arrangements?

Are these changes compatible with the draft European Network Codes?

Should P342 be progressed as a Self-Governance Modification?

What changes are needed to BSC documents, systems and processes to support P342 and what are the related costs and lead times?

Are there any Alternative Modifications?

Does P342 better facilitate the Applicable BSC Objectives than the current baseline?

### Assessment Procedure timetable

#### P342 Assessment Timetable

Panel submits P342 to Assessment Procedure	19 Jun 16
Workgroup Meeting 1	28 Jun 16
Industry Impact Assessment	18 Jul 16 – 05 Jul 16
Workgroup Meeting 2	02 Sep 16
Assessment Procedure Consultation	19 Sep 16 – 07 Oct 16
Workgroup Meeting 3	11 Oct 16
Panel considers Workgroup's Assessment Report	10 Nov 16

## Workgroup membership and attendance

P342 Workgroup Attendance				
Name	Organisation	28 Jun 16	02 Sep 16	11 Oct 16
Members				
David Kemp	ELEXON ( <i>Chair</i> )	✓	✓	✗
Elliott Harper	ELEXON ( <i>Chair</i> )	✗	✗	✓
Giulia Barranu	ELEXON ( <i>Lead Analyst</i> )	✓	✓	✓
Richard Devenport	EDF Energy ( <i>Proposer</i> )	✓	✓	✓
Alan Okino	Gazprom Marketing and Trading	✓	✗	✓
Andrew Colley	SSE plc	✓	✗	☎
Andrew Russell	Engie	✓	✗	✓
Bill Reed	RWE Supply & Trading GmbH	✓	✓	✗
Chris Fisher	Energy Marketing and Trading	✓	✓	✗
Esther Sutton	Uniper UK Limited	✓	✓	✓
Helen Stack	Centrica EMT Regulatory Affairs	✓	✗	✗
Howard Wright	EPEX SPOT SE	✓	✓	✓
Joseph Underwood	Drax Power Limited	✓	✓	✓
Kenneth Skou	Neas Energy A/S	✓	✓	✓
Matthew Williams	Statkraft	✓	✓	✗
Rhiannon Calado	National Grid	✓	✓	✓
Scott Berrie	National Grid Interconnectors	✗	✓	✓
Tom Edwards	Cornwall Energy	✓	✓	✗
Attendees				
Matt McKeon	ELEXON ( <i>Design Authority</i> )	✓	✓	✓
Toby Godrich	ELEXON ( <i>Lead Lawyer</i> )	✗	✗	✓
Elliott Hall	ELEXON	✓	✓	✓
David McCrone	Ofgem	✓	✓	✓
Carla Isfan	Neas Energy A/S	✗	✗	✓
Chris Dickson	Energy24 Limited	✗	✗	✓
Elizabeth Johnstone	National Grid Interconnectors	☎	✗	✗
Damian Hudson	BritNed	✓	✓	✗
Jeremy Guard	First Utility	✓	✗	✗
Mauricio Cepeda	Gazprom Marketing and Trading	✓	✗	✓

## Appendix 4: Estimated Progression Effort

The following tables contain the estimated effort in progressing P342:

Assessment Effort	
Participant	Effort (man days)
ELEXON	36
Workgroup members	90
<b>Total</b>	<b>126</b>

Consultation Response Effort	
Consultation	No. of responses
Assessment Procedure Consultation	13
Report Phase Consultation	14
<b>Total</b>	<b>27</b>



## Appendix 5: Glossary & References

### Acronyms

Acronyms used in this document are listed in the table below.

Acronyms	
Acronym	Definition
AEI	Actual Energy Indebtedness
BM	Balancing Mechanism
BMRS	Balancing Mechanism Reporting Service
BSC	Balancing Settlement Code ( <i>industry Code</i> )
CADL	Continual Acceptance Duration Limit
CAP	Credit Assessment Price ( <i>parameter</i> )
CCP	Credit Cover Percentage
CEI	Credited Assessment Energy Indebtedness
CRA	Central Registration Agency
CSDs	Code Subsidiary Documents
ECVAA	Energy Contract Volume Allocation Agent ( <i>BSC Agent</i> )
ECVN	Energy Contract Volume Notification ( <i>contract notification</i> )
ECVNA	Energy Contract Volume Notification Agent ( <i>Party Agent</i> )
ENC	European Network Codes
FPN	Final Physical Notification
GSP	Grid Supply Point
HH	Half-Hourly
IWA	Initial Written Assessment
MEI	Metered Energy Indebtedness
MVRN	Metered Volume Reallocation Notification
MVRNA	Metered Volume Reallocation Notification Agent
NIV	Net Imbalance Volume
TEI	Total Energy Indebtedness
TERRE	Trans-European Replacement Reserves Exchange

### External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

External Links		
Page(s)	Description	URL

P342  
Final Modification Report

16 December 2016

Version 1.0

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External Links		
5	P305 page on the ELEXON website	<a href="https://www.elexon.co.uk/mod-proposal/p305/">https://www.elexon.co.uk/mod-proposal/p305/</a>
6	Issue 35 page on the ELEXON website	<a href="https://www.elexon.co.uk/smg-issue/issue-35-timing-of-gate-closure-and-related-matters/">https://www.elexon.co.uk/smg-issue/issue-35-timing-of-gate-closure-and-related-matters/</a>
6	Issue 61 page on the ELEXON website	<a href="https://www.elexon.co.uk/smg-issue/issue-61/">https://www.elexon.co.uk/smg-issue/issue-61/</a>
7	P342 page on the ELEXON website	<a href="https://www.elexon.co.uk/mod-proposal/p342/">https://www.elexon.co.uk/mod-proposal/p342/</a>
13	P344 page on the ELEXON website	<a href="https://www.elexon.co.uk/mod-proposal/p344/">https://www.elexon.co.uk/mod-proposal/p344/</a>
22	P282 page on the ELEXON website	<a href="https://www.elexon.co.uk/mod-proposal/p282-allow-mvrns-from-production-to-consumption-or-vice-versa/">https://www.elexon.co.uk/mod-proposal/p282-allow-mvrns-from-production-to-consumption-or-vice-versa/</a>