

P359 'Mechanised process for GC/DC declarations'

This Modification seeks to introduce a new mechanised process for Generation Capacity and Demand Capacity declarations.



The BSC Panel initially recommends **approval** of P359

This Modification is expected to impact:

- Generators
- Suppliers
- Interconnector Users
- ELEXON



Phase

Initial Written Assessment

Definition Procedure

Assessment Procedure

Report Phase

Implementation

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About This Document

This is the P359 Draft Modification Report, which ELEXON will present to the Panel at its meeting on 14 June 2018. It includes the responses received to the Report Phase Consultation on the Panel's initial recommendations. The Panel will consider all responses, and will agree a final recommendation to the Authority on whether the change should be made.

There are four 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 draft redlined changes to the BSC for P359.
- Attachment B contains the full responses received to the Workgroup's Assessment Procedure Consultation.
- Attachment C contains the full responses received to the Panel's Report Phase Consultation.



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Why Change?

SSE plc raised [P359 'Mechanised process for GC/DC declarations'](#) on 6 September 2017.

P359 was raised to address a concern that the current arrangements for re-declaring Generation Capacity (GC) and Demand Capacity (DC) values, using estimates of Balancing Mechanism (BM) Unit Metered Volumes provided by the Lead Party, are ambiguous and resulting in low levels and/or inaccurate re-declared values. Failure to re-declare can result in underestimated Credit Cover requirements. This can increase the risk of non-defaulting Parties paying Default Funding Shares, should a Party not lodge sufficient Credit Cover (e.g. because their DC and Credit Cover Percentage (CCP) are understated) and then enter Payment Default.

Solution

Under the new process, the Central Registration Agent (CRA) will monitor Parties' Balancing Mechanism (BM) Unit Metered Volumes to identify where the BM Unit Metered Volumes exceed the thresholds for the declared GC/DC; a 'GC/DC breach'. Following the identification of a GC/DC breach, CRA will calculate the estimated positive and/or negative BM Unit Metered Volume(s) for the breached BM Unit(s), in accordance with a method established and maintained by the BSC Panel.

Once an estimated positive and/or negative BM Unit Metered Volume(s) for the breached BM Unit(s) is calculated, CRA will notify the relevant Lead Party of the breach, the estimated BM Unit's Metered Volume(s), and the replacement GC/DC values. CRA will update the relevant BM Unit's Registration Details, to ensure replacement GC/DC values take effect from the beginning of the next Business Day. All of these details will be published on the BSC Website and be available to authorised persons.

ELEXON will administer a challenge process, should a Lead Party wish to challenge the replacement GC/DC values.

Impacts & Costs

P359 will impact Generators, Suppliers and Interconnector Users, as these Parties submit GC and DC values.

P359 will impact the CRA, with a system implementation cost of approximately **£162K**, as well as document implementation cost of approximately **£1.2K**.

Implementation

P359 is proposed for implementation on **28 February 2019**, as part of the February 2019 BSC Release.

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Recommendation

The majority of the BSC **Panel agrees** with the **Workgroup's majority** view that P359 would better facilitate Applicable BSC Objectives (c) and (d) compared to the current baseline and should therefore be **approved**.

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2 Why Change?

Background

Following submission of seasonal GC and DC values, Parties must re-declare estimates of BM Unit Metered Volume(s) if they breach thresholds described in Section K 'Classification and Registration of Metering Systems and BM Units' 3.4.3. These are currently:¹

Breach thresholds	
Declared GC/DC	Limit
<100 Megawatt (MW)	2 MW
100-500MW	2% of declared value
>500MW	10MW

GC and DC values must reflect the expected maximum magnitude positive and negative metered volume for the BM Unit in the relevant BSC Season. A Lead Party must re-declare these values when it 'becomes aware or believes in good faith that such value' will exceed GC or be less than DC and 'in good faith and as accurately as [it] reasonably can'.

Issue 68

[Issue 68 'Underestimation of Demand Capacity'](#) was raised by ELEXON on 28 March 2017. It sought to investigate the under-requirement of Credit Cover due to inaccurate DC declarations and how to develop a solution to minimise the effect of these inaccuracies in the calculation of the Credit Assessment Energy Indebtedness (CEI) and CCP.

As part of Issue 68, the Issue Group considered whether the GC and DC re-declaration processes could be more mechanistic, with estimates determined and re-declared by ELEXON when the GC and DC is breached by more than the allowed tolerance, rather than by the Lead Party. Such an approach would reduce the administrative burden on BSC Parties and increase the accuracy of submission, as re-declarations would follow a common calculation based on the historical Metered Volume data available.

SSE raised this Modification based on one of the recommended solutions from Issue 68.

What is the issue?

Following a breach of a declared GC or DC value, Parties are required to re-declare an estimate of BM Unit Metered Volume for the relevant BM Unit. Failure to do so can perpetuate an inaccurate GC or DC value being used to calculate CEI and CCP, as the breached value is retained until a re-declaration is made.

As the BSC does not specify an exact amount of Credit Cover that Parties must provide, inaccurate or understated DC values can result in Parties lodging less credit than their actual behaviour ought to require. This is because Parties are left to decide on the level of cover that they wish to provide in order to stay below the Credit Default levels. Therefore, failure to re-declare GC/DC values can result in inaccurate CCP which may increase the risk of non-defaulting Parties paying Default Funding Shares, should a Party not lodge



What is Generation and Demand Capacity?

Each BM Unit has a Generation Capacity (GC) and a Demand Capacity (DC). This is the maximum expected net Generation and Demand for that BM Unit in the current BSC Season.

These values are declared seasonally. Parties can make resubmissions during the Season if they breach these declared values



Credit Guidance notes

More detail on **Credit Cover** and **Credit Default** can be found in the respective Guidance Notes available on our [Credit webpage](#).

¹ Please note that K3.4.3 was amended following the implementation of BSC Approved Modification P357 on 22 February 2018.

sufficient Credit Cover (e.g. because their DC and CCP are understated) and then enter Payment Default.

Moreover, BSC Section K3.4.5 requires the Lead Party to re-declare 'as soon as reasonably practicable after [it] becomes aware, or ought reasonably to have become aware'. Without a clear and objective requirement describing how soon a re-declaration must be made, there is a concern that Parties are not submitting timely GC and DC values following a breach.

Enforcement of the process for re-declaring GC and DC values is challenging due to the current BSC rules which are ambiguous. For example the use of the term 'good faith' is subjective and does not provide clear direction to the Party as to what is reasonable; or the Panel or ELEXON in terms of monitoring and enforcement.

Proposed solution

P359 proposes to introduce an automated process for GC and DC submissions. As such, the Modification seeks to:

- Improve the accuracy of GC and DC declarations following a breach by introducing a consistent, objective and mechanistic method used for all re-declarations; and
- Relieve BSC Parties of the burden of re-declaring GC and DC values following a breach by requiring ELEXON to administer the mechanistic method.

Automated Process

P359 proposes to introduce a centralised and automated process for re-declaring BM Unit Metered Volumes following a breach of the GC or DC limits. The detailed solution can be found in the business requirements (Appendix 1) and legal text (Attachment A).

A high level summary of the solution is as follows:

- CRA will monitor Parties' actual BM Unit Metered Volumes to identify 'GC/DC breaches'.
- The BSC Panel will establish and maintain a method in a statement for estimating values of BM Unit Metered Volume (QM_{ij}) for use in the calculation of replacement GC and DC values.
- Following the identification of a GC/DC breach, CRA will calculate the estimated positive and/or negative BM Unit Metered Volume(s) for the breached BM Unit(s).
 - The method for estimating values of QM_{ij} is:

To calculate GC for a particular BM Unit and a 'relevant' BSC Season, determine the positive value of QM_{ij} with maximum magnitude from all available, latest historical values of QM_{ij} for that BM Unit from the current BSC Season and the corresponding BSC Season 12 months earlier;

To calculate DC for a particular BM Unit and a 'relevant' BSC Season, determine the negative value of QM_{ij} with maximum magnitude from all available, latest historical values of QM_{ij} for that BM Unit from the current BSC Season and the corresponding BSC Season 12 months earlier.

- CRA will notify the relevant Lead Party (including ELEXON and Electricity Market Reform (EMR) Settlement Services Provider) of the breach, the estimated BM Unit's Metered Volume(s), and the replacement GC and/or DC values (derived using the existing CRA calculation described in K3.4.8).
- CRA will update the relevant BM Unit's Registration Details with its estimate of BM Unit Metered Volume(s) before the CRA daily run at 14:00, to ensure replacement GC and/or DC values take effect from the beginning of the next Business Day.
- Parties will have two Working Days to challenge the new GC and/or DC values. ELEXON will administer this challenge process.
- CRA must securely publish details of BM Units' current and past GC and DC values, breaches and challenges on the BSC Website.



Business requirements

The business requirements can be found in Appendix 1.

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- ELEXON and CRA must maintain records relating to the identification of breaches, the estimation of BM Unit Metered Volumes, communications with Parties and the determination of challenges, for BSC Audit purposes.
- ELEXON will report on the number of GC/DC Breaches and number of challenges to the BSC Panel and/or Panel committee (i.e. Imbalance Settlement Group).

Views of respondents to the Assessment Procedure Consultation

Seven of the eight respondents to the Assessment Procedure Consultation agreed with the Workgroup's majority view that P359 does better facilitate the Applicable BSC Objectives (c) and (d) in comparison to the current baseline. The reviews were broadly in line with the rationale provided by the Proposer (See Section 7).

One respondent did not believe that the solution better facilitated the Applicable BSC Objectives. The respondent believed that Objective (c) was not met because the solution placed significant additional burden on smaller parties. The respondent believed that calculating GC/DC values on missing or erroneous Interim Information (II) Settlement data will significantly impact the credit position of a small Party. This is because a single generator or demand site is likely to represent a greater percentage of the overall BM Unit Metered Volume of a small Party than a large Party, therefore smaller Parties are more sensitive to missing or erroneous data. The impact is that in their experience, missing or erroneous data overstates consumption, which is likely to trigger DC breaches, subsequent re-declarations and higher Credit Cover requirements.

The respondent also portrayed a view that the costs of lodging additional credit whilst the challenge is carried out will have a significantly greater impact on smaller Parties.

Further, they noted that smaller Parties are more likely to struggle to dedicate resources to the challenge process and that the impact on their cost base would be proportionately higher than larger Parties. The respondent also noted that there were no industry standards on Party Agents requiring a certain level of performance with regard to II data. This means that such standards are entirely dependent upon the strength of the contract that the Party is able to negotiate with its Agent(s). The respondent argued that smaller Parties have significantly less influence when negotiating contracts with agents regarding levels of service compared to larger Parties who are better able to protect themselves against the risks of erroneous/missing data.

The respondent also did not believe that the Modification better facilitated Objective (d), as the solution will lead to GC/DC values being automatically recalculated based on II data, which they believed was false/missing data; leading to unnecessary, costly and time consuming challenges. In the respondents view, this does not promote the efficiency of the BSC arrangements.

The Proposer noted that Parties experience challenges with lodging credit, regardless of their size. This is especially the case with Parties who are not UK based, and as such require funds to be transferred internationally.

The Proposer noted the concerns the respondent had for small Parties, and highlighted other small Parties had responded to the consultation positively.

The Workgroup further considered the obligations on Party Agents to provide data in Section 6.

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Self-Governance

The Proposer and Workgroup believe P359 **does not meet** the Self-Governance Criteria, and therefore should not be treated as a Self-Governance Modification.

The Proposer and the Workgroup believe the Modification, if implemented, is likely to have a material impact upon Self-Governance Criteria (a)(v). This is on the basis that making the change will impact the Code's governance procedures, through the introduction of a new process for submitting GC and DC declarations.

ELEXON believes that P359 will impact Self-Governance Criteria (a)(ii), as the automatic setting of GC/DC may materially affect commercial activities (i.e. lodging credit) connected with generation or supply.

Views of respondents to the Assessment Procedure Consultation

All respondents to the Assessment Procedure Consultation agreed that P359 does not meet the Self-Governance Criteria and therefore should not be progressed as a Self-Governance Modification.

Respondents noted that P359 has a material impact on Self-Governance criteria (a)(v) since there would be changes to the code's governance procedures through the introduction of a new process for submitting GC and DC values.

Further, respondents also noted that there was a material impact on Self-Governance Criteria (a)(ii) as the automatic setting of GC/DC may materially affect the commercial activities (i.e. lodging credit) of BSC Parties.

The Workgroup agreed with the rationale provided in the Assessment Procedure Consultation, and believed that the Self-Governance criteria were not met. Therefore P359 should not be treated as a Self-Governance Modification.

Legal text

The proposed changes to the BSC to deliver P359 can be found in Attachment A.

Views of respondents to the Assessment Procedure Consultation

Five of the eight respondents to the Assessment Procedure Consultation agreed with the Workgroup that the draft legal text delivers the intention of P359. One respondent noted that the draft legal text accurately and coherently implements the solution of P359.

Three responded with "no comment". One respondent noted that they had not reviewed the draft legal text as part of their response.

Are there any (other) alternative solutions?

An Alternative Modification was proposed by a Workgroup member after the Assessment Procedure Consultation, however it was not raised as the majority of the Workgroup agreed there are no other potential Alternative Modifications within the scope of P359 which would better facilitate the Applicable BSC Objectives (see Section 6).

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Views of respondents to the Assessment Procedure Consultation

In response to the Assessment Procedure Consultation, seven of the eight respondents agreed with the Workgroup that there are no other potential Alternative Modifications within the scope of P359 which would better facilitate the Applicable BSC Objectives.

The respondent, who did not agree, responded “no comment” and did not provide a rationale.

In the final Workgroup, a Workgroup member considered raising an alternative solution that would require the CRA to update the BM Unit’s Registration Details with an updated GC/DC value at the end of the challenge period, rather than at the beginning of the Business Day following identification of a Breach and before the challenge period had passed. Any Alternative Modification developed during an Assessment Procedure is owned by the Workgroup (not the Proposer), and can only be raised by the majority approval of voting Workgroup members. As only one Workgroup member believed that the Alternative Modification should be raised, a majority was not met and therefore no Alternative was raised.

Estimated central implementation costs of P359

The system development costs of P359 are approximately **£94K**. These costs arise from changes to the CRA.

This cost is higher than the estimated cost of £91,258 included within the Assessment Procedure Consultation. The revised estimated is due to uplift in the costs from ELEXON's Service Providers due to the indexation increase from 1 April 2018.

The Modification is proposed for implementation in February 2019. This revised approach will reduce the risk of implementing P359, essential Oracle upgrades and the new CRA system necessary to support P344 at the same time, as detailed in Section 5.

There is an associated cost of approximately **£68k** to re-implement some of the changes on the new platform being delivered through the Foundation Programme in Nov 2019. Therefore the total system implementation cost of P359 is approximately **162k**.

P359 also has a document implementation cost of approximately **£1.2K** for the implementation of the Code, Code Subsidiary Documents (CSD) and Configurable Items.

Indicative industry costs of P359

We expect P359 to directly impact Suppliers, Generators and Interconnector Users for the reasons detailed below.

P359 impacts

Impact on BSC Parties and Party Agents	
Party/Party Agent	Potential Impact
Generator	Parties that submit GC and DC values may require process changes, to implement this Modification. For example, to monitor and challenge BM Unit Metered Volume values estimated by the CRA. No specific costs or implications have been identified as part of the Assessment Procedure Consultation.
Supplier	
Interconnector User	

Impact on Transmission Company
No identified impact.

Impact on BSCCo	
Area of ELEXON	Potential Impact
Market Analysis	ELEXON will no longer need to monitor Parties' BM Unit Metered Volumes to identify 'GC/DC breaches'. However, ELEXON will now need to administer a challenge process. ELEXON will also need to make changes to its internal systems, processes and working instructions.
Settlement Operations	

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Impact on EMR	
EMR Body	Potential Impact
EMRS	As part of the EMR Impact Assessment, Low Carbon Contracts Company (LCCC) confirmed that there is no impact

Impact on BSC Systems and processes	
BSC System/Process	Potential Impact
CRA	Changes will be required to implement this Modification to introduce a process for monitoring and estimating BM Unit Metered Volume.

Impact on BSC Agent/service provider contractual arrangements	
BSC Agent/service provider contract	Potential Impact
None anticipated based on current understanding of solution.	

Impact on Code	
Code Section	Potential Impact
Section K	Changes will be required to implement this Modification to describe the rules and process for monitoring and estimating BM Unit Metered Volume. Section K will be modified to describe the new process, whereby CRA will monitor for breaches, estimate volumes following a breach, notify Parties and update Registration Details. It will also describe how Parties may challenge any estimates determined by CRA. Annex X-1 will be updated to include new definitions relevant to this process.
Section X Annex X-1	

Impact on Code Subsidiary Documents	
CSD	Potential Impact
BSCP15	Changes will be required to implement this Modification. That is, to describe the detailed circumstances and processes by which ELEXON (or its agent, the CRA) will monitor, estimate BM Unit Metered Volumes and update BM Registration Details; to further detail the content of notices and publications made by ELEXON (or its agent) as part of the processes.
CRA Service Description (CRA SD)	

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Impact on other Configurable Items	
Configurable Item	Potential Impact
CRA User Requirements Specification (CRA URS)	Changes will be required to implement this Modification. That is, to make it clear the circumstances and processes, by which ELEXON will monitor, estimate BM Unit Metered Volumes and update BM Registration Details.
Section M Material Doubt Guidance	Changes will be required to implement this Modification. That is, to clarify the interactions between Material Doubt and the GC or DC Estimation Challenge Guidance.
New - GC or DC Estimation Challenge Guidance	A new guidance note to provide clarity to Lead Parties on the GC/DC challenge process and criteria.

We plan to consult of CSD and configurable item changes by December 2018.

Impact on Core Industry Documents and other documents	
Document	Potential Impact
Ancillary Services Agreements	No direct impacts identified.
Connection and Use of System Code	
Data Transfer Services Agreement	
Distribution Code	
Distribution Connection and Use of System Agreement	
Grid Code	
Master Registration Agreement	
Supplemental Agreements	
System Operator-Transmission Owner Code	
Transmission Licence	
Use of Interconnector Agreement	

Impact on a Significant Code Review (SCR) or other significant industry change projects
Ofgem confirmed at the September BSC Panel meeting on 14 September 2017 that this is a SCR Exempt Modification.

Impact on Consumers
No direct impact identified.

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Impact on the Environment

No direct impact identified.

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Recommended Implementation Date

The Workgroup recommends an Implementation Date for P359 of:

- **28 February 2019**, as part of the February 2019 BSC Scheduled Release.

This is subject to Ofgem approving P359 in sufficient time to allow for the implementation lead time of 16-20 weeks.

Views of respondents to the Assessment Procedure Consultation

Seven of the eight respondents to the Assessment Procedure Consultation agreed with the Workgroup's initial recommended Implementation Date (November 2018 BSC Release). Respondents believed that the recommended implementation date is achievable but would benefit from a prompt decision by the Authority on the Modification.

The workgroup considered the proposed implementation approach, noting Ofgem's 25 WD Service Level Agreement (SLA) for decisions on Modifications.

ELEXON indicated that if P359 is recommended for approval by the BSC Panel on 14 June 2018, the Final Modification Report would be submitted to the Authority for decision on 15 June 2018. ELEXON highlighted that P359 has a 16 week lead time for system changes. As such, for P359 to be implemented as part of the November 2018 Release, Ofgem would need to make a decision on P359 by 6 July 2018. This date would allow for a two WD contingency.

The Workgroup agreed that it would be prudent to recommend an alternative implementation date of February 2019, in the event that the Authority is unable to provide a determination on or before 6 July 2018.

Revised implementation date

Following the Workgroup's fourth meeting, ELEXON became aware of an increased level of risk to implementing P359 in the November 2018 Release. In particular:

- Interaction with essential Oracle upgrades – ELEXON is in the process of upgrading BSC Central Systems to ensure they run on the latest version of Oracle and therefore remain supported. Implementing P359 in the November 2018 Release will increase the risk to implementing these essential Oracle upgrades as resources and access to test environments will become more limited. These forthcoming Oracle upgrades are to Central Systems and are in addition to [CP1482 'Upgrade of NHHDA and EAC/AA systems from Oracle 11g to version 12c'](#), which was implemented in the February 2018 Release and upgraded Party Agent systems only;
- Time to deliver Central System changes for P359 – in light of the resources required to deliver the essential Oracle upgrades and P359 in the November 2018 Release, a reassessment by our service provider has identified that even if the Authority decided by 6 July to approve P359, they now believe that achieving the timescales set out in their original assessment of P359 will increase the overall risks of successfully delivering P359, the Oracle upgrades and other changes due in November; and

- Interaction with BSC Modification [P344 'Project TERRE implementation into GB market arrangements'](#) – in order to facilitate the implementation of P344, ELEXON is designing a new CRA system, built on new systems architecture as part of our Foundation Programme. Since our original Impact Assessment of P359 and the Workgroup's fourth meeting, ELEXON has confirmed that the introduction of a brand new CRA system to support P344 will be part of the February 2019 Release. By implementing P359 in November 2018 on the existing legacy CRA system, ELEXON will need to migrate the P359 solution to the new CRA system in February 2019. We now believe that migrating the P359 solution from legacy CRA to the new CRA in February increases the risk to successfully implementing the new CRA in February (and therefore P344) in comparison to the P359 solution being designed and implemented in the new CRA system as part of the February 2019 Release.

Taking these points together, ELEXON recommends that P359 is implemented as part of the February 2019 Release, not as part of the November 2018 Release. This revised approach would reduce the risk of implementing P359, the essential Oracle upgrades and the new CRA system necessary to support P344.

The Proposer supports the revised Implementation Date. The Workgroup also considered the revised implementation approach via email and did not raise any concerns or questions with ELEXON. As such, the recommended Implementation Date for P359 has been updated to 28 February 2019, as part of the February 2019 Release.

The Workgroup discussions over three meetings centred on the development of a set of business requirements for the P359 Proposed Solution. The business requirements can be found in Appendix 1.

The considerations for the different components of the business requirements are summarised below and align with the Workgroup Terms of References as agreed by the BSC Panel.

Identification and calculation

Is a specific definition of 'GC/DC Breach' necessary? Can current wording be adapted?

The Modification Proposal proposed to include a definition of 'GC/DC Breach'. Such a definition would act as a clear trigger for calculating GC/DC values 'on any Settlement day in which a BM Unit has a Metered Volume of greater magnitude than the GC or DC, from one or more Settlement period(s)'.

In the first Workgroup meeting, ELEXON noted that arguably, this is already reflected in BSC Section K3.4.3, and K3.4.2(c) and K3.4.5 which describe what to do upon identifying a breach. ELEXON queried whether a specific definition of GC/DC Breach would need to be introduced.

The Workgroup acknowledged that the current provisions in effect define a GC/DC breach. That is, they require the Lead Party to re-declare if a Party's BM Unit Metered Volume exceeds the GC or DC by an amount greater than the tolerances specified in K3.4.3 within a single Settlement Period.

ELEXON noted that the intention of introducing a definition of GC/DC breach would allow proposed provisions to operate (in particular, to trigger the estimation by ELEXON/CRA of BM Unit Metered Volumes for updating BM Units' GC and/or DC) and be measured more easily on a daily basis, rather than for a single Settlement Period. For example, the Modification Proposal includes a challenge process that is intended to run over a set number of working days. Therefore, to make it clear when parts of the process begin and end, it might be easier to attribute a breach to a specific day.

Further, ELEXON noted that the definition proposed in the Modification Proposal may require updating to ensure that it is aligned with changes proposed in Approved BSC Modification [P357 'Removal of GC/DC tolerance parameters from BSC Section'](#), and to reflect the fact that GCs are positive and DCs are negative values.

The members at the first Workgroup agreed that, pending alignment with P357, the definition of 'GC/DC breach' set out in the Modification Proposal would likely be suitable. ELEXON proposed using an updated version of the criteria in K3.4.3 to reflect P357 and that GC and DC values are positive or negative values respectively:

'on any Settlement day in which a BM Unit has a positive value of QM_{ij} (subject to Section K3.4.4) divided by Settlement Period Day that is of greater magnitude than the GC by the GC Limits; or

on any Settlement day in which a BM Unit has a negative value of QM_{ij} (subject to Section K3.4.4) with the maximum magnitude divided by Settlement Period Day that is less than the DC by the DC Limits.'

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ELEXON noted that the definition will be revisited as part of the Workgroup's review of the draft legal text

In the third Workgroup meeting, ELEXON noted that the term 'GC/DC Breach' has been changed to the 'GC and DC Breach Monitoring Criteria' to reflect their role in the operation of the solution. In particular, their role in monitoring for breaches and triggering the estimation of BM Unit Metered Volumes GC/DC values.

What constitutes a breach – a single or recurring event?

The first Workgroup noted that a single infringement of the GC/DC Limit would constitute a breach. In the event of multiple infringements within a day, the first such event would trigger a breach and therefore start the process for ELEXON to estimate a new BM Unit Metered Volume and the opportunity for the Lead Party to challenge such a value.

However, the group considered that it might be appropriate for any replacement value estimated by ELEXON to be based on the highest value on that day. This was to ensure that the replacement value would not be underestimated, and in turn potentially lead to another breach being triggered after submission. That is, if a breach is triggered early in the day and a new estimate of BM Unit Metered Volume determined at that point, then this estimate would not take account of actual BM Unit Metered Volume later in the day that might have set an estimate with a greater magnitude.

The Workgroup agreed that irrespective of when a breach occurred, ELEXON should use the most up to date actual BM Unit Metered Volumes available to it at the point it estimates a BM Unit Metered Volume.

Should II or SF data be used to monitor for Breaches?

ELEXON noted there could be instances where outlier BM Unit Metered Volumes, e.g. caused by spurious data or an exceptional event in a single Settlement Period, could lead to a breach.

ELEXON queried whether BSC Parties were aware of outliers driving GC/DC breaches, and whether the definition GC/DC Breach should account for outlier events, e.g. by being based on recurring instances rather than single events. Workgroup members noted that outlier events can occur, however they were relatively infrequent. One Workgroup member highlighted that typically the outliers arise as a result of spurious data, for example, a Party Agent incorrectly inputs data, which are typically resolved by the Settlement Final (SF) run.

In order to better understand the frequency and materiality of spurious or inaccurate data (including outliers) between the Interim Information (II) and SF run, the Workgroup requested that ELEXON provide analysis.

In the second Workgroup meeting, ELEXON presented analysis on the frequency and materiality of outliers between II and SF. ELEXON confirmed that the data used in the analysis was the Supplier Volume Allocation (SVA) registered metered energy Settled between 1 September 2016 and 31 August 2017. ELEXON reminded Workgroup members that the II run for the Settlement Administration Agent (SAA) is run at 5 working days and the SF run at 16 working days.

ELEXON noted that for all metered SVA registered demand and generation there is an increase from 51% to 59% of Energy Settled on Annualised Advances (AA) or actual reads

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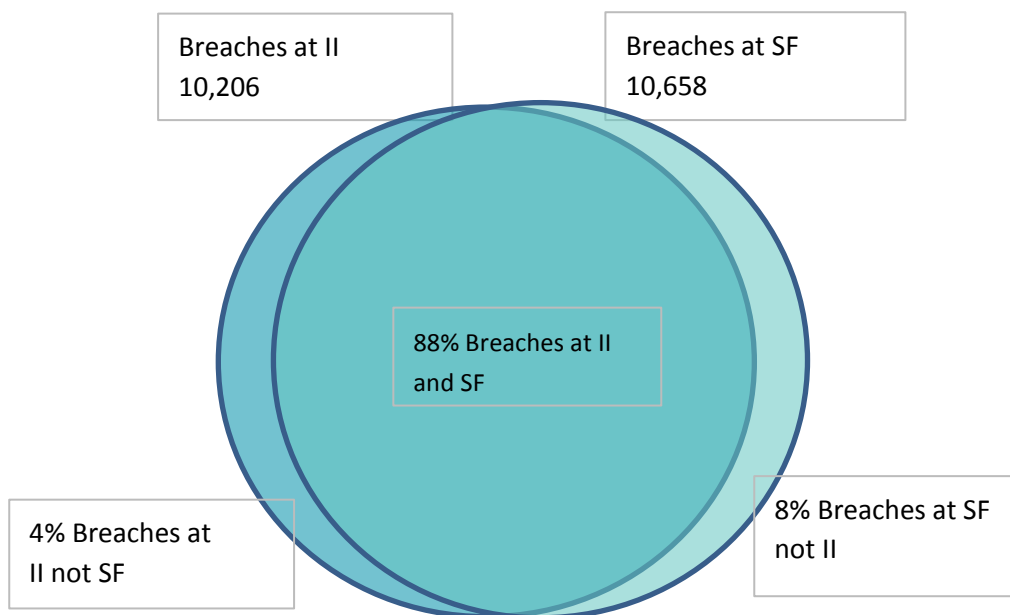
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between II and SF. For Non Half Hourly import energy, the volume settled on AA increases from 0% to 11%. This increase still leaves the majority of import energy settled on Estimated Annual Consumption (EACs) at the SF run. For Half Hourly import energy, the volume settled on actuals increases from 93% to 98% between II and SF.

In relation to the total DC and GC Breaches at II and SF between September 2016 and August 2017, ELEXON noted that for all Settlement Days where a DC breach occurred at II and SF, 88% occurred during both runs. Of the 12% that did not occur at both runs 4% occurred at II but not SF and 8% at SF but not II.

Where a BM Unit has breached their DC in a day at II but not SF the average difference between the actual metered demand and DC was 7.8MWh higher than for those breaches that occurred at SF but not II. This implies that the breaches that occurred at II were caused by larger values of Metered Volume that disappeared at SF. This may be explained by outliers but may be more likely due to estimates and EACs at II that overestimate consumption compared to actual Metered Volumes.

The percentage of GC breach days that occurred for both II and SF was 81%. This was due to 17.5% of breaches only occurring at the SF run. Where the GC breach occurred at SF not II, 91% of breaches were from Supplier BM Units.



Although ELEXON's analysis showed that overall industry-wide volumes tended to overestimate at II compared to SF, a Workgroup member noted that in some cases export volumes are underestimated at II. They noted that at II the data quality differed for some types of Suppliers, as a result of the contractual arrangements with their agents. This is the case in particular for smaller Suppliers that have larger volumes of exports registered in their BM Units. As a result, the workgroup member felt that smaller Suppliers may find the costs of timelier meter reading (i.e. in time for the II Run) prohibitive compared to larger Suppliers, who may command a stronger negotiation position.

The Workgroup member believed that for some Parties there are large differences between II and SF Settlement data due to missing data for half-hourly metered sites at II. This is because the Half Hourly Data Collector (HHDC) has been unable to retrieve and process half hourly meter reads and generate non-zero estimates for those sites in time to

include them in what they provide the Half Hourly Data Aggregator (HHDA) for the II Volume Allocation Run (VAR).

A Workgroup member expressed concerns that there may be an overemphasis on BM Units' imports relative to exports at II compared to SF. This effect may be a consequence of HHDCs submitting zero-value estimates for exports where a HH meter reading has not been collected by II. Furthermore, this may result in DC breaches at II, because the missing export results in a net BM Unit import at II when it ought to be a net export, which is often proved by SF when actual, non-zero, HH export metered data is included.

ELEXON completed analysis in response to the Workgroup member's concern. Our analysis showed that there is a difference in the volumes reported at II versus SF. That is that over a year there appears to be approximately 2.2 Terawatt Hour (TWh) of missing export out of a total 42.2TWh at SF.

ELEXON's analysis showed that, for all Supplier BM Units with registered import and export volumes, 82% of breach days occurred at II and SF; 9% of breaches that occurred at II did not occur at SF; and there were also 9% of breaches that occurred at SF and not at II.

This data was further split by party type; "big six" or "other Suppliers". For the "big six" Suppliers, 13% of breaches occurred at II not SF, and 11% of breaches occurred at SF and not II. Whereas for "other Supplier", 7% of breaches occurred at II not SF and 9% of breaches occurred at SF not II. This means, that "big six" suppliers experience more breach days at II and not SF, compared to "other Suppliers", who experience more breach days at SF than II.

Another Workgroup member noted that the difference between the number of breaches occurring at II and SF does not appear too material. However, the advantage of using II data over SF data, is that II data can be used sooner (i.e. rather than waiting 16 business days for SF, ELEXON could use Settlement data after 5 business days), and consequently more Settlement Days in a BSC Season can be monitored. ELEXON completed analysis that showed that waiting for SF data would mean that approximately 26% of all Settlement Days across a year would not be monitored² (i.e. because by the time Settlement data had reached SF, a new BSC Season will have begun), whereas approximately 9% of Settlement Days would be missed if II data was used.

The workgroup member went on to note that there are no obligations on Supplier Agents to issue reports regarding the II VAR to Suppliers. If monitoring of DC and GC breaches is to include using II data, Suppliers would be better placed to challenge breach notifications if they did receive the reports.

The Proposer noted that Suppliers are not incentivised to ensure data quality at II through Supplier charges, but can negotiate value added services with their appointed agents that can deliver improved data quality for II data. The Proposer suggested that should Suppliers not feel confident about the quality of the data provided by their agents, then they could renegotiate the terms of their contract.

The Proposer noted that enabling ELEXON to identify and update GC/DC values sooner should result in more reflective credit requirements thereby reducing all Parties exposure to the risk of contributing to Default Funding Shares. For these reasons the Proposer recommended that II data be used to monitor for breaches.

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² Assuming that ELEXON monitored BM Units every Business Day.

Views of respondents to the Assessment Procedure Consultation

As part of the Assessment Procedure Consultations, respondents were asked whether they believed that II data should be used to monitor for GC/DC breaches. Seven of the eight respondents to the consultation believed that II data should be used to monitor for GC/DC breaches.

Respondents noted that using the data available at the earliest opportunity (II data) enables earlier identification of GC and DC breaches. Whereas, using SF data would increase the number of days until the first check compared to using II data. Further, delaying the first check under the SF run would increase the number of days an incorrect DC/GC value is used in the Credit Calculation before it is identified and updated.

One respondent sympathised with concerns over accuracy of II data and anticipated spurious breaches, however believed that the challenge mechanism provided sufficient protection and noted a Supplier's ability to downwards declare their DC values twice a BSC season.

The one respondent who did not believe that II data should be used to monitor for GC/DC breaches noted that the likelihood of GC/DC values being re-declared based on erroneous/missing data makes the use of II data inappropriate.

The same respondent went on to suggest that SF data would provide a more accurate reflection of parties' activities. The respondent noted that the results of the ELEXON analysis on the frequency and materiality of outliers between II and SF showed that only 4% of DC breaches occurred at II but not SF. However, the respondent repeated the analysis using ELEXON's method, but extending the analysis over a four year period rather than the one year, and found that their proportion of DC breaches occurring at II but not SF was much higher, at 20%.

To confirm whether the respondent's analysis applied to all parties over an extended period, ELEXON conducted additional analysis on the use of II and SF data over a four year period. The analysis can be found in Attachment C.

ELEXON's analysis indicated that of the 95 BSC Parties with at least one breach in the period, 12% had a percentage of II only breaches, greater than 20%. The average percentage of II only breaches was 4.3%; which aligned with ELEXON's initial analysis of 4%.

ELEXON also noted that II data is currently used in the calculation of Credit Cover requirements. Therefore, using II data for monitoring and estimating BM Unit Metered Volume is consistent with those used for monitoring and setting Credit Cover requirements.

The Workgroup considered the responses to the Assessment Procedure Consultation and ELEXON's additional analysis.

The Proposer accepted that parties would potentially need to respond quickly as a result of GC/DC values being estimated on their behalf. However, the Proposed reiterated that the P359 process addresses the defect that Parties are not responding to notifications that inform them that they have exceeded their GC/DC limits, and are therefore not meeting their obligations.

The Workgroup noted that the process would impact all Parties, regardless of size but that some Parties would be affected much more than others. For some portfolios, most notably Suppliers with half hourly metered renewable energy sites, the calculation of Metered



ELEXON's further analysis on II-SF

ELEXON's further analysis on the use of II and SF Data can be found in Attachment C.

The key findings are noted at the relevant points within this section.

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Volumes at II will be underestimated due to missing export data which is then always treated as zero. Export data could be missing because the meter has failed to download data or because it always requires a site visit to collect the data.

Another Workgroup member suggested that a change could be made to BSCP502 'Half Hourly Data Collection for SVA Metering Systems Registered in SMRS' to expand the methods used by the HHDC to estimate export data to reduce the number of zero estimates. The Workgroup member agreed that the issue could be resolved in the future with a Change Proposal (CP).

How frequently should ELEXON check for breaches?

ELEXON highlighted that currently checks are conducted on a fortnightly basis, based on II data. ELEXON asked the Workgroup to provide a view on the frequency of the checks.

The Proposer suggested that ideally, the checks could be conducted on a daily basis. However, the Proposer reiterated that the intention of the Modification was to reduce the administrative burden on both BSC Parties and ELEXON. As such, the frequency of the checks should not create any unnecessary administrative burden. The Workgroup agreed that ELEXON should check as frequently as is cost effective and efficient.

ELEXON took an action to assess options in order to provide a view on the optimum frequency for monitoring.

ELEXON presented analysis in the second Workgroup, on how often GC/DC Breaches occur and how the frequency of checks (e.g. every day, every Tuesday) and use of Settlement data at different Settlement Runs (e.g. II or SF Data) may affect the optimum frequency for monitoring.

The analysis looked at the:

- Number of checks that can occur
- Cost of conducting the number of checks
- Percentage of days that would be missed between checks
- Average interval between checks
- Average number of days until the first check occurs
- The minimum error in Credit Cover for a breached BM Unit

In order to complete its analysis, ELEXON made several assumptions: ELEXON confirmed that where the check falls on a bank holiday or weekend it assumed that the check would not take place. The 10 WD rule assumes that no check would take place in the final 10 days of the BSC Season as Parties will be declaring for the next BSC Season during this time. For the estimated cost of checks, this is calculated for a manual check process taking 3.5 hours of a Full Time Equivalent (FTE) per check. All of the figures were calculated for each season in a year (September 2016 to August 2017) and then annualised either by summing the values for each season or by taking an average.

Using SF data increases the number of days until the first check by an average of 16 days compared to using II data. Therefore delaying the first check will increase the number of days an incorrect DC/GC value is used in the Credit Calculation before it is identified and updated. This risk is accentuated in Winter, Spring and Summer when between 46% and

52% of first breaches occur in the first week of the BSC Season. This suggests that approximately 50% of first breaches in a Season would not be identified until, on average, 9.5 business days and 26 business days into the Season when relying on II or SF data respectively. The minimum impact a breached DC/GC value will have on a Party's Credit Cover is £2,640 per day³.

ELEXON completed analysis that showed that waiting for SF data would mean that approximately 26% of all Settlement Days across a year would not be monitored⁴ (i.e. because by the time Settlement data had reached SF, a new BSC Season will have begun), whereas approximately 9% of Settlement Days would be missed if II data was used.

The least number of checks over a year is 15 checks, where SF data is used with 15 day rule and checked every other Tuesday. The maximum number of checks in a year is 229 where II data is used and a check takes place every day.

The Workgroup highlighted that there was not much difference between checking every day, checking every other day or checking once a week. Checking every day resulted in 9% days missed at II and 26% days missed at SF, whereas checking once a week resulted in 11% missed days at II and 27% missed at SF. One Workgroup member suggested that optimising the frequency of checking may be best reserved for ELEXON's discretion, as checks may need to occur more frequently at the beginning of a BSC Season.

The Workgroup agreed that the business requirements should state that ELEXON will continue to monitor for GC/DC breaches at their discretion. This will allow for flexibility to determine the frequency of the checks. The Workgroup also noted, that the implementation of the Modification would change the pattern for breaches, therefore this approach gave ELEXON flexibility to address such a change appropriately.

The Proposer confirmed that this meant monitoring all Settlement Periods, using II data.

Should the BSC allow for some flexibility on Breaches when the seasons roll over?

A Workgroup member highlighted that there may be an increased number of breaches during first Settlement Period of each BSC Season. They noted that BSC Parties may not have sufficient reference data (from the relevant BSC Season) to re-declare a BM Unit Metered Volume for that BSC Season.

The Workgroup considered whether a potential solution requirement could be to ignore the first Settlement Period of the first day of the new BSC Season, because Parties would not have any reference data at that point on which to re-declare GC/DC values.

ELEXON noted after the first Workgroup meeting that there may not be a strong enough rationale for excluding the first Settlement Period of each Season from triggering a breach. That is, a GC/DC value is intended to accommodate the imports or exports for a BM Unit at any point in the season. The issue with breaches on the first Settlement Period (or the first few Settlement Periods) of a Season is that there is no or little reference data from that Season with which to determine a replacement GC/DC value. This may be resolved by either waiting for sufficient data to become available or basing the replacement value on Metered Volumes from outside the relevant Season.

³ At the time of our analysis the Credit Assessment Price (CAP) was £55/MWh and the minimum GC/DC breach limit was 1MWh. Therefore the minimum error cost per day of a breach was £2,640.00 = (£55/MWh x 1MWh) x 48 Settlement Periods.

⁴ Assuming that ELEXON monitored BM Units every Business Day.

The Workgroup confirmed in the second Workgroup meeting that all Settlement Periods would be considered. As such, the first Settlement Period would not be excluded.

Should the BSC include a clear route for escalating repeat offenders, e.g. to the Performance Assurance Board (PAB) if Party breaches GC/DC 'x' times in a Season or in the last 'x' days?

The first Workgroup considered whether the Modification could include an explicit, codified escalation route for Parties who continually breach their GC or DC. The Workgroup noted that this explicit escalation route would be in addition to the BSC's existing general compliance and assurance arrangements, and the current credit default arrangements. As a result the inclusion of an additional process may be unnecessary.

A Workgroup member queried the extent of the issue of persistent breaches, and 'downwards declarations'⁵ of DC. ELEXON noted that Section K 3.4.2A limits a Lead Party to downwards declaring twice in each BSC Season. ELEXON took an action to update its Issue 68 analysis on the extent to which BSC Parties persistently understate their DC values and downwards declare after a breach.

In the second Workgroup meeting, ELEXON presented analysis on the persistence of downwards declarations. ELEXON confirmed that there were a total of 447 mid-season downwards DC declarations over the year. This is equivalent to 19% of all mid-season declarations. Spring has the highest number of downwards declarations with a total of 141 during the BSC Season.

Where a downwards mid-season declaration occurred, in 15% of cases the BM Unit breached their DC after the downwards mid-Season declaration. In 11% of cases the BM Unit had breached their DC prior to the mid-Season declaration. In 5% of cases the BM Unit breached their DC before and after the mid-Season downward declaration.

In autumn, there were 16 cases of mid-season downwards DC declarations where the BM Unit breached before and after the declaration. In these cases the average mid-Season downwards declaration was 0.84MWh.

The Workgroup noted the analysis, and agreed that the limit on two downwards declarations for each BSC Season should not be amended as part of the Modification and noted that the BSC already provided suitable routes to escalate any perceived persistent breach.

Parties that do not re-declare after a breach notice

In the second Workgroup meeting, ELEXON also provided additional analysis that showed the Workgroup the persistence of Parties who remain in breach and fail to re-declare their GC or DC, even after ELEXON has notified them that they have exceeded the GC/DC limits.

Currently, ELEXON runs four or five fortnightly checks during each BSC Season. ELEXON notifies Parties of any BM Units that have breached their declared GC/DC values by the GC/DC limits.

⁵ A 'downwards declaration' is the submission of a value of negative BM Unit Metered Volume (i.e. consumption) with a smaller magnitude. This has the effect of predicting a lower level of expected consumption in the BSC Season.

The below table summarises how many Parties did not re-declare for at least 28 days following a breach notification. If a Party has not declared by ELEXON's fifth check it is almost certain that the GC or DC will not be updated in the BSC Season. This is because by this point there is only a short time until the next BSC Season begins.

Season	Total Parties with 1 or more breaching BMUs (entire Season)	3rd check of Season (28 days worth of II data)	4th check of Season (42 days worth of II data)	5th check of Season (56 days worth of II data)	% of Parties with breaches that are >27 days old on final Seasonal check
Autumn 2016	59	3rd breach 5	3rd breach 2	3rd breach 2	6.78%
			4th breach 1	4th breach 1	
				5th breach 1	
Winter 2016	63	3rd breach 5	3rd breach 7	3rd breach 1	7.94%
			4th breach 3	4th breach 3	
				5th breach 1	
Spring 2017	58	3rd breach 5	3rd breach 3	3rd breach 4	10.34%
			4th breach 3	4th breach 1	
				5th breach 1	
Summer 2017	42	3rd breach 10	3rd breach 2	N/A	11.90%
			4th breach 3		

What principles or considerations should the method of calculating GC/DC values be based on?

In the first Workgroup, ELEXON asked the Workgroup what the main principles ought to be for the method of calculating GC/DC values. The Workgroup indicated a preference for accuracy, simplicity and replicability.

In its Modification Proposal the Proposer specified that historical metered data should be used in the calculation of the estimated value. ELEXON noted that using historical meter data would only reflect historical activity, and queried whether greater accuracy would be achieved by trying to account for future behaviour, e.g. by forecasting. ELEXON asked the Workgroup for their views on using a point average forecast or a model of projected change in a Party's portfolio as an alternative. The Proposer highlighted that ELEXON is constrained by the data provided by BSC Parties under the BSC, therefore Settlement data was the only viable option – that is, the BSC does not currently require Parties to share details of its portfolios or business plans, therefore ELEXON does not have the necessary data to effectively forecast or model a Party's future behaviour. The Proposer also suggested that adopting a backward looking approach ensures that calculations are based on existing, actual data, whereas a forward-looking method may be more risky, as any such model would be a prediction, could be difficult to effectively replicate and it is likely that Parties better understand their businesses than ELEXON.

In the second Workgroup meeting, ELEXON presented a set of draft business requirements. These requirements reflected the Proposer's suggestion, that is that the method for calculating estimates of QM_{ij} values must adhere to the following principles:

- Simple;
- Replicable;
- Accurate; and
- Uses historical Settlement Data only

The Workgroup discussed whether a set of principles for calculating the values of BM Unit Metered Volume (QM_{ij}), should be codified. Including principles in the Code would make it clearer that changes to the method would need to satisfy these principles and that changes to the principles would require a BSC Modification.

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A Workgroup member expressed concerns about including principles in the Code, noting that should they need to be changed in the future, a Modification would be required. The Workgroup agreed that the principles should be described in the requirements for this Modification, so that future Workgroups can make reference to what principles were considered when P359 was being developed, but should not be codified.

How should historical metered data be used and over what time?

ELEXON asked the group for thoughts on how historical data could be used and over what timescale such data should be collected and used; e.g. whether the last 30 or 60 etc. days, an average of the current or past BSC Season(s), or the weeks known for providing the maximum GC and DC values. The Workgroup considered that a maximum value from a sample would likely be the most appropriate value, as the usage of an average could understate the GC/DC value and lead to further breaches. The Workgroup requested that ELEXON return with analysis on a number of different method options.

ELEXON presented analysis demonstrating five methods for calculating the DC using the maximum metered volume from different historical datasets:

- Method 1 - Metered data from the Current BSC Season only
- Method 2 - Metered data from the Current BSC Season and BSC Season the year beforehand
- Method 3 - Metered data from the Current BSC Season and preceding BSC Season
- Method 4 - Metered data from the last 30 days
- Method 5 - Metered data from the last 60 days

ELEXON confirmed that a sixth method identified during the Workgroup's first meeting was not fully assessed - metered data from specific weeks that typically have the highest DC/lowest GC. This was because initial analysis showed that there would be little additional benefit in assessing this method, given the data would be a subset of the already retrieved data in method 2.

To assess the methods, two tests were run for each method in each BSC Season between September 2016 and August 2017 – eight tests were run in total. The tests consisted of checking which BM Units had breached between their DC in the check period and calculating a new DC based on one of the above methods. The new DC values were then tested in a test period to see how many BM Units then breached the new DC in the test period and the average number of days for a breach to occur.

ELEXON noted that for six of the eight tests Method 2 had the lowest percentage of BM Units breaching the calculated DC in the test period. Method 1 has the highest percentage of BM Unit breaches for all checks.

In Autumn the highest percentage of BM Units breached during the test periods and of all methods tested Method 2 had the lowest breach percentages for the two autumn checks.

Method 3 and Method 5 retrieve similar datasets, hence the breach rates and average days to breach are similar.

The average days the new DC was valid for show the average number of days either until the next BSC Season or until the BM Unit breached its DC. Method 2 had the highest average valid days for both checks, the rest of the methods had very similar averages.

The Workgroup considered the five methods and agreed that Method 2 appeared to produce the most robust estimates of BM Unit Metered Volume – that is values estimated by Method 2 were less likely to result in a subsequent breach – please see Business Requirement 2.2, below, for a more detailed description of the agreed method.

The Workgroup agreed that the method for estimating values of BM Unit Metered Volume should be specified in a statement established and maintained by the BSC Panel, or as delegated to a Panel sub-Committee. The Workgroup recommended that the Imbalance Settlement Group (ISG) would be an appropriate committee.

The Workgroup confirmed that the method statement should be added to the BSC Baseline Statement as a Category 1 Configurable Item – this would mean that it would be published on the BSC Website and that any future change to the statement would require an Approved CP. The Workgroup agreed that the statement should be drafted post-Approval of the Modification and implemented as part of P359.

How should BSC Parties be notified of a breach and any automated change to their BM Units' GC or DC values?

Under current arrangements and as suggested in the Modification Proposal, BSC Parties are notified of a breach via an email from ELEXON to a Category A Authorised Person. ELEXON queried whether this was the most efficient approach for the industry. For example, could a data flow (e.g. over the Data Transfer Network) be sent or a notice be generated and sent from the ELEXON Portal. The Workgroup agreed that the initial notification was best provided through an email to a Category A Authorised Person (authorised to make any type of changes and typically a senior person within an organisation); however reminders or notification of subsequent breaches on the same day could be shown on the BSC Portal. This would ensure that should further breaches on subsequent days occur, the BSC Party would be able to distinguish between breaches.

At its second meeting the Workgroup considered whether other categories of Authorised Person should receive the notification. That is one member noted that Category A persons may be executive members of staff and not operationally/directly involved in the process of monitoring and setting GC and DC values. Another member agreed that while it may not be appropriate to send such a notification to Category A Authorised Persons, it may be necessary so as to ensure that received notice is delivered, especially if the company has not specified an alternative person to contact (e.g. a Category F Authorised Person – Category F Authorised Persons are specifically responsible for updating BM Unit Metered Volumes for use in calculating GC and DC values).

The Workgroup agreed that the business requirements should require ELEXON to notify the Lead Party's Category F Authorised Person(s), or Category A if no Category F persons are specified, of the breach and the updated BM Unit registration details.

The Workgroup also discussed the implications of notifying Parties by email. A Workgroup member queried how confirmation would be received that the Party has received the email; noting that an employee may leave a company, and point of contact may not be updated.

ELEXON confirmed that it is a Party's responsibility to manage their Authorised Persons and related contact details. ELEXON also confirmed that there are deemed receipt provisions within the BSC. That is, BSC Section H 'General' 9.2.2(d) states that an email is deemed to be received one hour after being sent, in the absence of any undeliverable return receipt received by the sender during that period.

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Enabling Parties to challenge any estimate calculated by ELEXON

The Proposal specifies that Parties should be able to challenge any estimate calculated by ELEXON. The purpose of the challenge process is to allow Parties some recourse when they believe an estimate calculated by ELEXON is inappropriate (e.g. because the Party is likely to have a better understanding than ELEXON of its actual/likely operation) or incorrect.

The Proposer suggested considering how existing Material Doubt provisions work as these could provide a template for handling challenges to estimates of QM_{ij} calculated by ELEXON.



What is Material Doubt?

Material doubt as defined in [Section M](#) of the BSC can be claimed where substantial evidence shows that the CCP for a Trading Party as calculated by the ECVAAs does not give a true reflection of that Party's Energy Indebtedness.

Could material doubt be used for the challenge process?

ELEXON noted that currently material doubt is used in relation to credit. ELEXON noted that although material doubt may be broader than the scope of the GC/DC challenge process, it could be utilised for the challenge process. However, ELEXON also noted that the criteria for raising Material Doubt are highly subjective and challenged whether ELEXON would ever be able to effectively review or challenge a Parties' challenge, except if it were on the grounds of a clear data or calculation error. The workgroup agreed that challenges should only be raised if evidence of a data or calculation error could be shown.

At the second Workgroup meeting, ELEXON provided a view on what material doubt provisions could apply to the challenge process; specifically what criteria could be used as part of the assessment and in what timescales. This was to determine whether the existing material doubt provisions can inform the challenge process.

BSC states that ELEXON shall withhold notifying Energy Contract Volume Aggregation Agent (ECVAA) of an authorisation relating to Credit Default where there exists 'a material doubt as to whether, at the time, the systems and processes used by the ECVAA are giving correct determinations of the values of CCP for that Trading Party'.

Material doubt can be brought to ELEXON's attention by the ECVAA or 'otherwise'. It will often be raised as a result of the Trading Party submitting evidence to ELEXON of a circumstance likely to produce a material discrepancy between the ECVAA's determination of CCP and the true CCP of the party. Throughout the process, ELEXON has and retains ultimate discretion as to whether it has a material doubt regarding a Party's Credit Default status.

ELEXON suggested that application of a material doubt approach could be applied. In order to determine that material doubt exists, the following criteria must be satisfied:

- Substantial evidence
 - The evidence via the ECVAA or submitted by the Trading Party must be substantial in the context of the particular case.
- Material
 - The doubt as to the Party's credit default status must, in ELEXON's reasonable opinion, be material in the context of the particular case.
- Significant

- Where applicable, a projected discrepancy between II and SF data must be of 'significant' size.

To raise an appeal, the Party must submit a statement to ELEXON explaining the error in the calculation of GC/DC, and provide evidence that satisfies the following criteria for the appeal to be upheld:

- Actual error
 - evidence must demonstrate that either ELEXON has used the GC/DC calculation method incorrectly or that there is an error in the Metered Data/Settlement Data used to calculate a GC/DC value
- Material
 - evidence must demonstrate that the absolute percentage error is more than 5%, where percentage error = $\frac{ABS((GCDC_{ELEXON} - GCDC_{Party}))}{GCDC_{ELEXON}} \times 100$

Further, the Party must also submit an alternative GC/DC value that is based on the correct use of the method or uses correct metered/Settlement data.

The Workgroup agreed that a more specific set of guidance than material guidance was important to create certainty around the challenge process. One Workgroup member believed that a percentage error of 5% was too low, as he believed that there was substantial error in metering data.

The Workgroup agreed that the requirement in the business requirements should be for the Lead Party to provide evidence that the historical metering data used in the estimation contained an error or that the CRA had applied the method incorrectly, and that the decision on whether to uphold the challenge should be left ELEXON's discretion. Furthermore, should a Lead Party wish to challenge the estimated value, an alternative should be proposed.

ELEXON confirmed in the third Workgroup, the advantage of separating the criteria for challenging the GC/DC estimated value from the Material Doubt Guidance; it will avoid confusion. The separate guidance will be defined in Section K as 'GC or DC Estimation Challenge Guidance'. The P359 Workgroup recommended that the guidance note is updated to provide specific guidance in relation to challenging BM Unit Metered Volumes estimated by ELEXON.

Is a challenge process necessary?

The second Workgroup considered whether a challenge process was required at all. ELEXON noted that the BSC already allows Lead Parties to redeclare estimates of QM_{ij} (per K3.4.2 and K3.4.2A) which they could use if they believed an estimate calculated by ELEXON was inappropriate or incorrect. Use of existing provisions rather than creating a new challenge process would avoid the need to define and resource a new process, which might be more efficient. The Workgroup noted the existing provisions but considered that establishing a challenge process was important. A challenge process ensures Parties have an explicit means of identifying and resolving a concern with any value calculated by ELEXON, e.g. that erroneous metered data may have been used and is brought to light and resolved. It also allows a Party to maintain a degree of autonomy in managing the values that are submitted.

Should a holding value be used while the challenge process is proceeding?

ELEXON queried what value should be used, and potentially submitted while a challenge process is underway. The Workgroup suggested that the value calculated by ELEXON would be put into the CRA, and pending the end of the challenge process, if the estimate is incorrect, the Party's value would apply. The Party's value would need to be evidence based, to explain why the replacement value is valid. ELEXON would then make a final decision, without an appeal route to Panel.

In the second Workgroup meeting, ELEXON presented an end to end overview of the timescale; from when the breach is triggered and raised, to when it is resolved. The workgroup reiterated their views from the first Workgroup meeting, that the estimated value should be submitted into the CRA on the next Business Day following identification of a breach, to reduce the amount of time incorrect GC/DC values are used.

As such, the Workgroup indicated that the CRA must complete its review of all relevant BM Units in time so that any amendments to breached BM Units Registration Details (i.e. a new GC or DC value) can be processed that day to take effect the following Business Day.

In the third Workgroup meeting, ELEXON queried whether monitoring should be suspended for the BM Units that are subject to an open challenge. The Workgroup agreed that monitoring be suspended for BM Units that are the subject of an open appeal.

The Workgroup suggested that the Material Doubt Guidance be expanded to include GC/DC Challenge as grounds for Material Doubt.

Views of respondents to the Assessment Procedure Consultation

As part of the Assessment Procedure Consultations, respondents were asked whether they believed BSC Parties should have longer than two Business Days to challenge the breach.

Seven of the eight respondents believed that parties should not have longer than two Business Days to challenge the breach, as two Business Days was seen to sufficiently balance the time needed to investigate a breach and submit a challenge against the need to efficiently remedy non-compliances to ensure as accurate a value as possible is being utilised within credit assessment calculations.

One respondent recommended that parties should be responsible for keeping their list of authorised persons up-to-date and ensuring they have several people who are category F authorised. This will make certain that in the event of a breach, there will be somebody in the office who can decide whether to administer a challenge.

Another who agreed with the two Business Day challenge period also expressed sympathy for smaller or new market entrants where they may be reliant upon a short number of 'experts' who may be away over a given period.

A further respondent asked for clarification on what happens after the challenge process if the deadline is not met. ELEXON contacted the respondent and confirmed that when the estimated BM Unit Metered Volume is calculated, it is submitted into CRA the following working day. Should a challenge not be received by the end of the two working day challenge period, the estimated value will remain in CRA. ELEXON also reiterated that the P395 solution does not remove the ability for BSC Parties to downwards declare up to twice a BSC Season

The respondent, who believed that Parties should have longer to respond, suggested that a greater period of time to challenge a breach would reduce the negative impact on small parties. This would in turn better support Applicable BSC Objective (c).

A Workgroup member suggested that the issue centred on the estimated GC/DC value being submitted into CRA the following Working Day, as this meant that Credit Cover is impacted ahead of a challenge. The Workgroup member suggested that another solution option could be to delay the submission until after the end of the challenge period. The Workgroup member proposed raising an alternative solution that would submit the GC/DC value at the end of the challenge period.

Another Workgroup member expressed concern that such an approach would allow parties to buy more time, and delay the inevitable, which is a correctly updated GC/DC. It was noted that if a Party was concerned that the use of II data would result in an inappropriate DC value, they could apply for Material Doubt, at the same time as challenging the DC value, to prevent it triggering a Credit Default Notice.

Any Alternative Modification developed during an Assessment Procedure is owned by the Workgroup (not the Proposer), and can only be raised by the majority approval of voting Workgroup members. As only one workgroup member believed that the Alternative Modification should be raised, a majority was not met and no Alternative was raised.

The Workgroup noted the respondent's comments and agreed that the challenge period should remain at two Business Days.

Submission

How quickly should values be entered into systems?

ELEXON noted that there is a current CRA systems constraint. That is, changes to BM Unit Registration Details (including new estimates of QM_{ij}) must be submitted to the CRA before 2pm each day to ensure that they are loaded for use by ECVAA the following day. ELEXON asked workgroup members for their views on when the value should enter into the system. The workgroup noted that whilst Parties would not argue against registering values more quickly, this would need to be balanced with the cost of doing so. They noted that there were no issues with waiting until the following day for the values to take effect as this is the current process.

The Workgroup discussed whether the process for submitting values could be automated, to reduce the administrative burden on ELEXON and the CRA. The workgroup asked ELEXON to assess the costs of such a system change.

In the third Workgroup meeting, ELEXON presented the Workgroup with impacts and cost of two solutions; one that is automated and the other that was in-house. The automated solution required the CRA to automate the monitoring for GC/DC breaches, estimation of QM_{ij} and update to BM Unit Registration details, whereas the in-house solution required that ELEXON continue to manage the monitoring of breaches, estimate QM_{ij} and notify CRA of changes to QM_{ij} following a breach. The automated solution had a one off implementation costs of £91,258 to implement the necessary system changes. The in-house solution had a one-off system implementation cost of £76,582, but in addition, there was also an on-going operation costs of between £4,984 and £12,824 per annum, for ELEXON to monitor.

The Workgroup noted that the one-off cost differential between the two solutions was approximately £15,000. However, ELEXON highlighted that the overall cost of the in-house

solution would be more than the automated solution within three years, due to the on-going costs to operate.

The Workgroup noted that even under the automated solution ELEXON would incur a cost to manage the challenge process. ELEXON agreed that they would need to resource any such challenge process but that these costs would be covered by existing business as usual operational expenditure and because ELEXON would no longer be manually monitoring QM_{ij}, they believed that on balance ELEXON would make a saving.

The Workgroup recommended that the automated solution be taken forward as the Proposer's Solution.

Zero submission

The Modification Proposal sought to prevent Lead Parties submitting estimates of BM Unit Metered Volume equal to 'zero' for BM Units with actual, historical Metered Volumes. This was proposed on the basis that any active participant would have some import or export, so estimating zero BM Unit Metered Volume is arguably not in 'good faith'.

However, in the first Workgroup meeting, ELEXON highlighted that a zero GC or DC may be appropriate for inactive or self-sufficient BM Units. ELEXON queried the Workgroup in what circumstances a zero submission should be appropriate. The workgroup highlighted a couple of circumstances. Examples included where a smaller supplier loses their sole customer in a Grid Supply Point (GSP) area; and another where a Generator decides to withdraw from participating in the wholesale market but not to disconnect the site entirely.

The workgroup also discussed how these types of zero submissions could be considered. Members discussed whether it would be appropriate for an automatic rejection of all zero values, and then provide the opportunity for Parties to appeal the rejection to ELEXON or the Panel.

The Workgroup queried whether the infrequency of such an event warranted an automated mechanism. ELEXON agreed to update the analysis on zero declaration that was presented to the Issue 68 group, and present it at the next P359 meeting. This would enable the Workgroup to ascertain whether the infrequency of these breaches could be best served through engagement with ELEXON's Operational Support Managers (OSMs).

In the second Workgroup, ELEXON presented the updated Issue 68 analysis on zero DC submissions.⁶ This analysis only looks at BM Units that were neither credit qualifying nor an Interconnector User; as these BM Units' credit requirements are determined with reference to their Final Physical Notifications rather than their GC or DC values. ELEXON noted that in all seasons between 57% and 64% of BM Units have a zero DC value at least once in the season. Between 5.1% and 4.6% of all BM Units had a zero DC and non-zero DC.

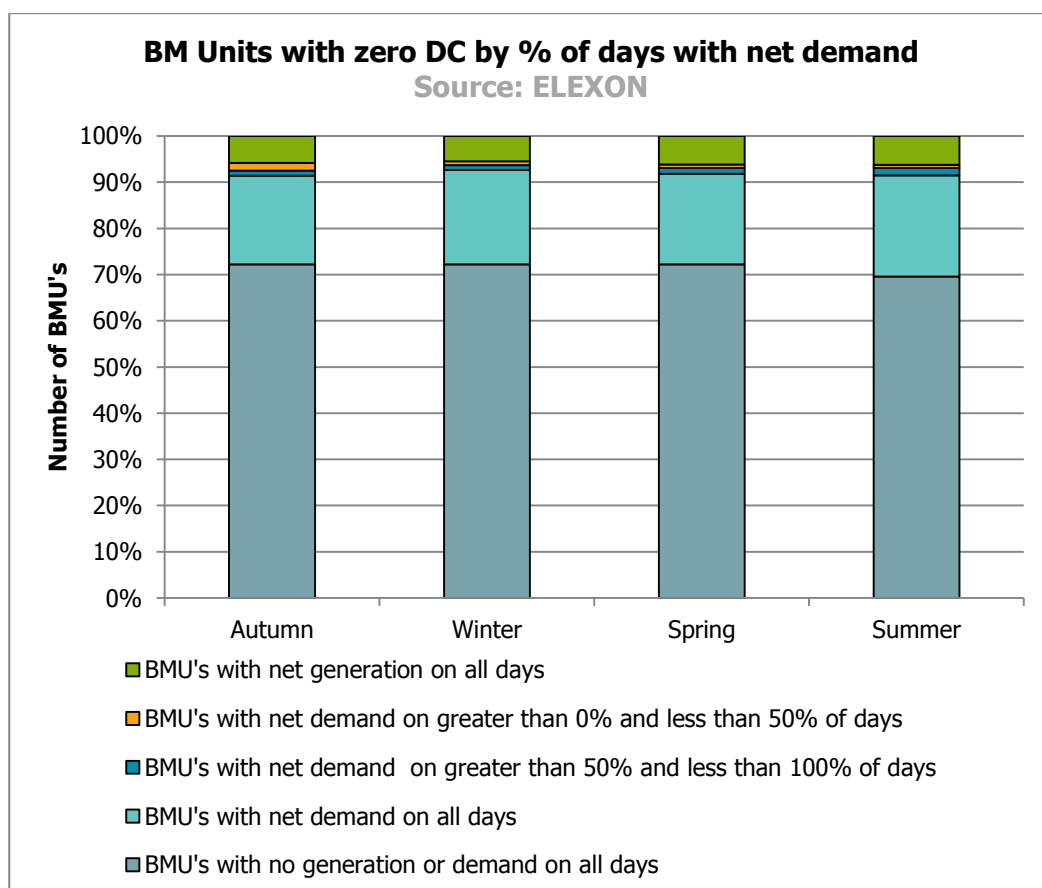
For a Supplier BM Unit, where the DC is zero and the GC is non zero, the credit requirements are based on the GC and Supplier Export Credit Assessment Load Factor (SECALF). For all other instances the credit requirements are based on the DC and Working Day Credit Assessment Load Factor (WDCALF) /Non-Working Day Credit Assessment Load Factor (NWDALF). For non-Suppliers BM Units, the credit requirements are based on the GC or DC and the WDCALF and NWDALF.

⁶ The data used in the analysis was the SVA registered metered energy Settled between 1 September 2016 and 31 August 2017

Between 70% and 72% of BM Units had no demand or generation when they had a DC of zero. However, between 19% and 22% of all BM Units had net demand on all days they had declared a DC of zero; and between 7% and 9% of BM Units had net generation on some or all of the days they had zero DC.

ELEXON noted that there may also be a number of dormant BM Units contributing to the large proportion of BM Units with no demand or generation and a zero DC. For example, BM Units that are inactive 'off the shelf' Supply businesses, or Contracts for Difference (CfD) Generators.

A Workgroup member noted that 19% and 22% of all BM Units that had net demand on all days they had declared a DC of zero, and queried how many BM Units that represented. ELEXON confirmed that it was approximately 300 to 330 BM Units of approximately 1500 BM Units. The Proposer believed that this was a significant number of BM Units, however accepted that it would not be possible to determine which Parties might be acting in bad faith. The Workgroup agreed it would not be appropriate to include a requirement to automatically reject all GC and DC declarations of zero value.



Further comments

Views of respondents to the Assessment Procedure Consultation

Three of the eight respondents provided further comments as part of the Assessment Procedure Consultation.

One respondent suggested that further clarity should be provided on the how parties can successfully challenge the estimated value. Another respondent indicated that it was not possible to carry out a full internal impact assessment without having more information regarding what ELEXON will require for a challenge to be upheld. The respondent

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suggested that ELEXON should consider what might be a viable level of evidence that a breach has occurred as the result of a data error.

ELEXON confirmed in the last Workgroup meeting that the new guidance, note to provide clarity to Lead Parties on the GC/DC challenge process and criteria would be consulted on within the industry, following approval.

The other respondent noted that like many other Suppliers, they encountered a breach for some BM Units during the first few days of the spring 2018 season. Whilst the respondent acknowledged that this was an anomaly and P359 focuses on an automated DC/GC process, they encouraged ELEXON to show common sense and offer support for Suppliers who may need to subsequently lodge additional credit or the impact that increasing BM Units will have on their CCP should such unprecedented incident happen again.

Workgroup's final recommendations

The Workgroup's **majority** view is that P359 does **better** facilitate Applicable BSC Objectives **(c)** and **(d)** compared with the existing baseline and so should be **approved**.

Workgroup members' views against the Applicable BSC Objectives

Applicable BSC Objective (c)

The **Proposer** and the **majority** of the Workgroup believe that this Modification **better facilitates** Applicable BSC Objective (c) as it will:

- (i) minimise compliance costs for BSC Parties by allowing a central process to calculate appropriate replacement values, rather than enforcing compliance through an onerous manual process;
- (ii) ensure better accuracy of GC/DC values used to calculate credit exposures and, as a consequence, support a more efficient allocation of risk and the cost to secure it. This in turn should help to minimise potential bad debt liabilities accruing which would ultimately be passed on to the consumer.

One Workgroup member believed that the Modification was negative against Applicable BSC Objective (c) as the solution disproportionately impacts smaller Parties in terms of costs and resource.

Applicable BSC Objective (d)

The **Proposer** and the **majority** of the Workgroup believe that P359 **better facilitates** Applicable BSC Objective (d), as it will improve the accuracy of GC/DC submissions and reduce the administrative burden on BSCCo staff to enforce compliance where values are not submitted or tolerances are breached.

One Workgroup member believed that the Modification did not better facilitate Applicable BSC Objective (d) because any efficiency benefits from the automated solution are outweighed by GC/DC values being recalculated based on false or missing II data and by the estimated value being imposed immediately after identification of a breach, rather than after the expiry of the challenge window.

Neutral on other Applicable BSC Objectives

The **Proposer** and **Workgroup members unanimously** believe that P359 is **neutral** against Applicable BSC Objectives (a), (b), (e), (f) and (g).



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

(g) Compliance with the Transmission Losses Principle

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Does P359 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views ⁷
(a)	<ul style="list-style-type: none"> • Neutral – no impact. 	<ul style="list-style-type: none"> • Neutral (unanimous) – no impact
(b)	<ul style="list-style-type: none"> • Neutral – no impact. 	<ul style="list-style-type: none"> • Neutral (unanimous) – no impact
(c)	<ul style="list-style-type: none"> • Yes – P359 will minimise compliance costs for BSC Parties and ensure better accuracy of GC/DC values 	<ul style="list-style-type: none"> • Yes (majority) – agree with the Proposer • No (minority) – concerned that P359 will disproportionately impact smaller Suppliers
(d)	<ul style="list-style-type: none"> • Yes – P359 will improve the accuracy of GC/DC submissions and reduce the administrative burden 	<ul style="list-style-type: none"> • Yes (majority) – agree with the proposer • No (minority) – concerned that GC/DC values will be automatically recalculated based on false or missing II data and the estimated value being imposed immediately after identification of a breach
(e)	<ul style="list-style-type: none"> • Neutral – no impact. 	<ul style="list-style-type: none"> • Neutral (unanimous) – no impact
(f)	<ul style="list-style-type: none"> • Neutral – no impact. 	<ul style="list-style-type: none"> • Neutral (unanimous) – no impact
(g)	<ul style="list-style-type: none"> • Neutral – no impact. 	<ul style="list-style-type: none"> • Neutral (unanimous) – no impact

⁷ Shows the different views expressed by the other Workgroup members – not all members necessarily agree with all of these views.

Panel's initial views against the Applicable BSC Objectives

The Panel provided their initial views against the Applicable BSC Objectives for P359 at its meeting on 10 May 2018. The rationale for their initial views aligns with those of the Workgroup.

- Applicable BSC Objective (c) – **majority** believe P359 better facilitates; one believes it is detrimental;
- Applicable BSC Objective (d) – **unanimous** view that P359 better facilitates.

The Panel was **unanimously** neutral on all other Applicable BSC Objectives.

The **majority** of the Panel agrees with the Workgroup's **majority** view that P359 does better facilitate Applicable BSC Objectives (c) and (d) compared to the existing baseline.

The Panel **unanimously** believes that P359 should be **approved**.

Panel's initial views on the draft legal text

The Panel **unanimously** believes that the draft redlined changes to the BSC for P359 in Attachment A delivers the intention of P359.

Panel's initial views on the proposed Implementation Date

The Panel **unanimously** agrees with the Workgroup's recommended Implementation Date (28 February 2019) for P359 as detailed in section 5.

Panel's initial views on Self-Governance

The Panel **unanimously** agrees with the Workgroup that P359 does not meet the Self-Governance Criteria as there is a material impact on the Code's governance procedures and so should not be progressed as a Self-Governance modification.

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 C.

Summary of P359 Report Phase Consultation Responses

Question	Yes	No	Neutral/ No Comment	Other
Do you agree with the Panel's initial unanimous recommendation that P359 should be approved?	4	0	0	0
Do you agree with the Panel that the redlined changes to the BSC deliver the intent of P359?	3	0	1	0
Do you agree with the Panel's recommended Implementation Date?	4	0	0	0
Do you agree with the Panel's initial view that P359 should not be treated as a Self-Governance Modification?	4	0	0	0
Do you have any further comments on P359?	1	3	n/a	n/a

Respondents' views on Panel's initial recommendation to Approve

All four respondents to the Report Phase Consultation agreed with the Panel's initial unanimous recommendation that P359 should be approved.

The views of respondents were in line with those of the Panel and the Workgroup. No new arguments were put forward.

Respondents' views on Legal Text

Three of the four respondents to the Report Phase Consultation agreed with the Panel's initial unanimous view that the redlined changes to the BSC deliver the intention of the P359 Proposed Modification. The fourth respondent responded with 'no comment' and did not provide a rationale.

Respondents' views on the Implementation Date

All four respondents to the Report Phase Consultation agreed with the Panel's recommended Implementation Date of 28 February 2019.

One respondent noted that while they believe that the recommended implementation date is achievable, it would benefit from a prompt decision by the Authority to allow sufficient time for the implementation of P359.

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Respondents' views on Self-Governance

All respondents to the Report Phase Consultation agreed with the Panel's initial unanimous view that P359 should not be treated as a Self-Governance Modification. The views of respondents were in line with those of the Panel and the Workgroup. No new arguments were put forward.

Further comments

One out of the four respondents provided further comments to the P359 Report Phase Consultation. The respondent highlighted their support for the development of a guidance document on the GC/DC challenge process and criteria. The respondent emphasised the importance of consulting with industry on the development of this guidance, noting that it will allow industry parties with an opportunity to highlight circumstances where the estimated value could be challenged.

ELEXON confirmed during the assessment phase of the Modification process that the GC or DC Estimation challenge Guidance would be issued for consultation as part of the implementation of the modification, should it be approved.

10 Recommendations

We invite the Panel to:

- **AGREE** that the P359 Proposed Modification:
 - **DOES** better facilitate Applicable BSC Objective (c); and
 - **DOES** better facilitate Applicable BSC Objective (d);
- **AGREE** a recommendation that the P359 Proposed Modification should be **approved**;
- **APPROVE** an Implementation Date for the Proposed Modification of:
 - 28 February 2019, as part of the February BSC Systems Release
- **APPROVE** the draft legal text for the Proposed Modification;
- **APPROVE** the P359 Modification Report.

Business Requirements for the Proposed Solution

Preferences

The P359 Workgroup expressed a preference for developing a solution that:

- Reduces the administrative burden on BSC Parties and ELEXON; and
- Maximises the frequency of monitoring and the speed of calculation and communications so they are cost effective and efficient.

Assumptions

The business requirements have been drafted with the following assumptions:

- CRA executes a 'CRA Daily' run at 14:00 each Business Day that captures all updates to BM Unit Registration details, and for which, the earliest Effective From Date (EFD) can be the next Business Day. To facilitate this 'run', all updates must be input into CRA before 14:00.
- Reference to 'BSC Website' within the business requirements is as defined within the Annex X-1, which means the websites established and maintained by BSCCo in whole or in part for the purposes of the Code.
- References to 'next Business Day' within the business requirements are subject to the deemed receipt provisions within the BSC Section H9.2.2, where in the case of e-mail, it is deemed to have been received one hour after being sent, in the absence of any undeliverable return receipt received by the sender during that period.
- Based on current numbers of GC/DC breaches, it is anticipated that there will be approximately an average of 20 to 30 breaches each week, with a possible maximum of 90 breaches on a given day.
- References to BM Unit Metered Volume(s) relate to a specific Settlement Period (QM_{ij}).

Requirement 1

CRA will monitor Parties' BM Unit Metered Volumes to identify 'GC/DC breaches'⁸ at a frequency set at most daily (Business Days only) but expected to be twice weekly on a Tuesday and a Thursday (only where these days are Business Days).

1.1	CRA will not monitor BM Units that are the subject of an open appeal as per requirement 6 (requirement 6.4) below.
1.2	CRA must complete its review of all relevant BM Units in time so that any amendments to breached BM Units Registration Details (i.e. a new GC or DC value) can be processed that day to take effect the following Business Day.
1.3	BSCCo will notify CRA of any Emergency Instructions so the CRA can manually exclude these volumes from the relevant BM Unit Metered Volumes when monitoring for a GC/DC breach.

⁸ In relation to a BM Unit, a GC/DC breach occurs when the criteria in K3.4.3 are met (taking account of K3.4.4). That is, where either the positive or negative value of actual BM Unit Metered Volume exceeds or the Lead Party becomes aware or believes it will exceed the GC or DC by the GC Limit or DC Limit, respectively. Please note that K3.4.3 has been amended following the implementation of BSC Approved Modification P357 on 22 February 2018.

Requirement 2

The BSC Panel will establish⁹ and maintain a method in a statement for estimating values of BM Unit Metered Volume (QM_{ij}) for use in the calculation of replacement GC and DC values.

2.1	The Panel will own the statement, which will be added to the BSC Baseline Statement as a Category 1 Configurable Item.
2.2	<p>The method for estimating values of QM_{ij} is:</p> <ul style="list-style-type: none">• To calculate GC for a particular BM Unit and a 'relevant' BSC Season, determine the positive value of QM_{ij} with maximum magnitude from all available, latest historical values of QM_{ij} for that BM Unit from the current BSC Season and the corresponding BSC Season 12 months earlier;• To calculate DC for a particular BM Unit and a 'relevant' BSC Season, determine the negative value of QM_{ij} with maximum magnitude from all available, latest historical values of QM_{ij} for that BM Unit from the current BSC Season and the corresponding BSC Season 12 months earlier.
2.3	ELEXON will publish the statement referred to in requirement 2.1 on the BSC Website.

Requirement 3

Following the identification of a GC/DC breach per requirement 1, and in time for any update to the BM Unit(s) Registration Details to take effect the next Business Day, CRA will calculate the estimated positive and/or negative BM Unit Metered Volume(s) for the breached BM Unit(s), in accordance with the method described in requirement 2.2.

Requirement 4

Following the calculation of estimated positive and/or negative BM Unit Metered Volume(s) for the breached BM Unit(s), per requirement 3, CRA will notify the relevant Lead Party of the breach, the estimated BM Unit's Metered Volume(s), and the replacement GC/DC values.

4.1	<p>By 15:00, for all BM Units that require replacement GC/DC values, following the identification of a GC/DC breach per requirement 1, CRA will notify all Category F Authorised Persons for the relevant Party, or Category A Authorised Persons if no Category F Authorised Persons registered, that:</p> <ul style="list-style-type: none">• BM Unit(s) affected• a GC and/or DC breach has occurred,• the date the GC/DC breach occurred (i.e. the calendar date the CRA identifies the breach and notifies the Lead Party),• the Settlement Day(s) and Settlement Period(s) the GC/DC breach(es) occurred,• the relevant Effective From Date for the replacement GC/DC value and the values themselves – N.B. GC and/or DC value(s) are reported in MW, and• the estimate(s) of BM Unit Metered Volume used by CRA to update GC and/or DC value – N.B. the estimate(s) of BM Unit Metered Volume will be reported in MWh.
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⁹ The establishment of a document will require public consultation. All further changes to the document will follow the CP process.

Requirement 4

4.2	Notices sent to BSC Parties should include a link to the BSC Website, where the Party will find more details of their BM Unit(s)'s GC/DC values and breaches – see requirement 8 below.
4.3	CRA will copy ELEXON (Settlement Operations generic inbox, Capacity Market (CM) Settlement Service Provider inbox and CfD Settlement Services Provider inbox) on all notices sent to BSC Parties in accordance with requirement 4.
4.4	CRA must securely publish on the BSC Website the estimate(s) of BM Unit Metered Volume it used to update the BM Unit's GC and/or DC, the replacement GC and/or DC value(s), and the EFD.
4.5	Access to the published data shall be limited to Authorised Persons (Category A and F) of the relevant Lead Party.

Requirement 5

Following notification to the relevant Party, CRA will update the relevant BM Unit's Registration Details before the CRA daily run at 14:00, to ensure replacement GC/DC values take effect from the beginning of the next Business Day.

Requirement 6

ELEXON must administer a challenge process.

6.1	Starting from the beginning of the Business Day following the sending of the notification described in requirement 4, the Lead Party has two Business Days to challenge the value calculated by ELEXON.
6.2	To submit a challenge, the Lead Party must notify ELEXON.
6.3	In order to challenge a value calculated by ELEXON, the Lead Party must propose an alternative to the replacement BM Unit Metered Volume(s) for the relevant BM Unit(s), based on evidence.
6.4	Upon receiving notice of an appeal, ELEXON must notify CRA of the appeal. This is to ensure the BSC Website is kept up to date and to ensure that monitoring, per requirement 1, excludes the BM Unit under appeal.
6.5	ELEXON will liaise with the Lead Party to consider the challenge in line with the GC or DC Estimation Challenge Guidance note. ¹⁰
6.6	Material Doubt Guidance will be expanded to include GC/DC Challenge as a grounds for Material Doubt
6.7	Within two Business Days of receiving a challenge, ELEXON will decide whether or not to uphold the challenge and notify the Lead Party of its decision. As part of its consideration ELEXON will liaise with the Party to consider the Party's proposed estimate of BM Unit Metered Volume.
6.8	ELEXON will determine the outcome of the appeal and any alternate BM Unit Metered Volume. ELEXON's decision is final.

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¹⁰ The P359 Workgroup recommended that the guidance note is updated to provide specific guidance in relation to challenging BM Unit Metered Volumes estimated by ELEXON.

Requirement 6	
6.9	ELEXON will notify CRA of its decision and any alternate BM Unit Metered Volume(s), to be used to update the BM Unit's Registration Details at the beginning of the next Business Day (or the following Business Day if notice is sent after 13:00).

Requirement 7	
CRA must publish details of BM Units' current and past GC and DC values, breaches and appeals on the BSC Website.	
7.1	The BSC Website will enable an authorised user to load details relating to a specific BM Unit.
7.2	<p>For a specific BM Unit, CRA must publish the following data items on the BSC Website:</p> <ul style="list-style-type: none"> • GC/DC values <ul style="list-style-type: none"> ○ Current GC value ○ Current GC value Effective From Date ○ Current DC value ○ Current DC value Effective From Date ○ All previous GC values and corresponding EFD and ETDs, from the last 24 months ○ All previous DC values and corresponding EFD and ETDs, from the last 24 months • Breach details (spanning the last 24 months) <ul style="list-style-type: none"> ○ Breach Identification Date/Time stamp ○ GC or DC breach ○ Settlement Date(s) ○ Settlement Period(s) ○ Actual BM Unit Metered Volume that triggered breach ○ Prevailing GC or DC ○ ELEXON calculated estimate of BM Unit Metered Volume ○ EFD for GC or DC based on ELEXON estimate ○ Appeal status – 'No appeal', 'Appealed', 'Upheld', 'Rejected' ○ Estimated BM Unit Metered Volume following the conclusion of an appeal
7.3	CRA must securely publish on the BSC Website.
7.4	Access to the published data shall be limited to Authorised Persons (Category A and F) of the relevant Lead Party. N.B. Publication of the data in accordance with this requirement 7 is in addition to and does not replace or amend existing requirements under the BSC to report BM Unit Registration details, which may be provided to persons other than Authorised Persons of the Lead Party

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Requirement 8

ELEXON and CRA must maintain records relating to the identification of breaches, the estimation of BM Unit Metered Volumes, communications with Parties and the determination of appeals, for BSC Audit purposes.

Requirement 9

CRA must handle conflicting submissions of replacement GC/DC Values when updating a BM Unit's Registration Details (i.e. GC/DC) to take effect on the same day.

9.1	<p>If, for a single BM Unit, CRA are faced with multiple GC or DC values to take effect from the beginning of the next Business Day, it must select only one of the available GC or DC values according to the following order of preference (where 1 is most preferable and 3 is least):</p> <ol style="list-style-type: none">1. A value submitted by ELEXON following the conclusion of an appeal per requirement 6.2. A value estimated following the identification of a breach per requirement 3.3. A value submitted by the Lead Party (not as a consequence of an appeal, but in accordance with K3.4.2 and K3.4.2A).
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Requirement 10

ELEXON will report on the number of GC/DC Breaches and number of Appeals to the Panel and/or Panel Committees.

10.1	The report will provide anonymised and aggregated statistics
10.2	Unless prescribed by the Panel, ELEXON will determine the frequency of reporting.

Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P359 Terms of Reference

What should be the definition of a GC and DC breach, which triggers the calculation and re-declaration of the GC and/or DC?

How should ELEXON use Metered Volume data to determine GC and DC values for a BM Unit?

How can parties dispute ELEXON's calculated value and/or apply alternative volumes?

Should the CRA reject all GC/DC submissions with a value equal to zero where the BM Unit has a non-zero positive/negative historical Metered Volume?

What action should be taken, should a Party submit a GC or DC value equal to zero, even though they have a non-zero/negative Metered Volume?

What changes are needed to BSC documents, systems and processes to support P359 and what are the related costs and lead times?

Are there any Alternative Modifications?

Should P359 be progressed as a Self-Governance Modification?

Does P359 better facilitate the Applicable BSC Objectives than the current baseline?

Assessment Procedure timetable

P359 Assessment Timetable

Event	Date
Panel submits P359 to Assessment Procedure	14 Sept 17
Workgroup Meeting 1	19 Oct 17
Workgroup Meeting 2	23 Jan 18
Workgroup Meeting 3	6 Mar 18
Assessment Procedure Consultation	20 Mar 18 – 6 Apr 18
Workgroup Meeting 4	20 April 18
Panel considers Workgroup's Assessment Report	10 May 18

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Workgroup membership and attendance

P359 Workgroup Attendance					
Name	Organisation	19 Oct 17	23 Jan 18	6 Mar 18	20 Apr 18
Members					
Andy Colley	SSE (<i>Proposer</i>)	✓	✓	☎	✓
Karl Maryon	Haven Power	✓	✓	☎	✓
Gary Henderson	Everis	✗	✓	☎	☎
Kenneth Skou	Neas Energy	✓	✓	☎	✗
Joshua Logan	Drax	✓	✓	☎	✗
Richard Mawdsley	Flow Energy	✓	✗	☎	✓
Ross Haywood	RWE	✓	☎	✗	✗
Alan Goodbrook	Good Energy	✗	✓	☎	✓
Tom Steward	Good Energy	✓	✗	✗	✗
Attendees					
Lawrence Jones	ELEXON (Chair)	✓	✓	☎	✓
Jemma Williams	ELEXON (Lead Analyst)	✓	✓	☎	✓
Nick Rubin	ELEXON (<i>Design Authority</i>)	✓	✓	✓	✓
Emma Tribe	ELEXON (<i>SME</i>)	✓	✓	✗	✓
Adam Jessop	ELEXON (<i>SME</i>)	✗	✗	✓	☎
David Stephens	ELEXON (<i>Lead Lawyer</i>)	✓	✓	✓	✓
Anastasia Charalampidou	Ofgem	✓	✓	☎	☎
Paul Youngman	Drax	✗	✗	✗	✓

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Appendix 3: Glossary & References

Acronyms

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

Acronyms	
Acronym	Definition
AA	Annualised Advances
BM	Balancing Mechanism
BSC	Balancing and Settlement Code
BSCCo	BSC Company
BSCP	BSC Procedure
CCP	Credit Cover Percentage
CSD	Code Subsidiary Documents
CEI	Credit Assessment Energy Indebtedness
CfD	Contracts for Difference
CI	Configurable Item
CM	Capacity Market
CP	Change Proposal
CRA	Central Registration Agent
CRA SD	CRA Service Description
CRA URS	CRA User Requirements Specification
DC	Demand Capacity
EAC	Estimated Annual Consumption
ECVAA	Energy Contract Volume Aggregation Agent
EFD	Effective from Date
EMR	Electricity Market Reform
EMRS	EMR Settlement Ltd
ETDs	Effective to Date
FTE	Full Time Equivalent
GC	Generation Capacity
GSP	Grid Supply Point
HH	Half Hourly
HHDA	Half Hourly Data Aggregator
HHDC	Half Hourly Data Collector
II	Interim Information
ISG	Imbalance Settlement Group
IWA	Initial Written Assessment

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Acronyms	
Acronym	Definition
LCCC	Low Carbon Contracts Company
MW	Megawatt
MWh	Megawatt hour
NHHDA	Non Half Hourly Data Aggregator
NWDCALF	Non-Working Day Credit Assessment Load Factor
OSM	Operational Support Manager
PAB	Performance Assurance Board
SAA	Settlement Administration Agent
SCR	Significant Code Review
SECALF	Supplier Export Credit Assessment Load Factor
SF	Settlement Final
SLA	Service Level Agreement
SME	Subject Matter Expert
SVA	Supplier Volume Allocation
TWh	Terawatt Hour
TERRE	Trans European Replacement Reserves Exchange
UK	United Kingdom
VAR	Volume Allocation Run
WD	Working Day
WDCALF	Working Day Credit Assessment Load Factor

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
3	P359 page on the ELEXON website	https://www.elexon.co.uk/mod-proposal/p359/
5	Issue 68 page on the ELEXON website	https://www.elexon.co.uk/smg-issue/issue-68/
5	Credit page of the ELEXON website	http://www.elexon.co.uk/operations-settlement/credit/
14	Cp1482 page of the ELEXON website	https://www.elexon.co.uk/change-proposal/cp1482/
15	P344 page of the ELEXON website	P344 'Project TERRE implementation into GB market arrangements'

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External Links		
Page(s)	Description	URL
16	P357 page on the ELEXON website	https://www.elexon.co.uk/mod-proposal/p357/
27	BSC Sections webpage	https://www.elexon.co.uk/bsc-and-codes/balancing-settlement-code/bsc-sections/

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