

Phase

Initial Written Assessment

Definition Procedure

Assessment Procedure

Report Phase

Implementation

P448 'Protecting Generators subject to Firm Load Shedding during a Gas Supply Emergency from excessive Imbalance Charges'

The Proposed P448 solution seeks to place a mechanism in the BSC that allows Load Shedding instructions issued during a Stage 2+ Network Gas Supply Emergency to be treated as Accepted Bids for BSC purposes. Gas-fired generators will be protected from BSC Imbalance Charges if the Load Shedding prevents them from delivering contracted positions agreed prior to receipt of the Load Shedding instruction. A Panel Committee will review the generator's Settlement data and contracted position after the event to verify that their Imbalance Charges are in accordance with this principle, and that their Bid Payment is reflective of Avoidable Costs.

The Workgroup also progressed an Alternative solution that extends the solution of the Proposed Modification to Balancing Mechanism (BM) Units not active in the BM.



The BSC Panel recommends **approval** of the P448 Alternative Modification and **rejection** of the P448 Proposed Modification



The BSC Panel **does** believe P448 impacts the European Electricity Balancing Guideline (EBGL) Article 18 terms and conditions held within the BSC

This Modification is expected to impact:

- Generators
- Suppliers
- Non Physical Traders
- National Grid Electricity System Operator (NGESO)
- Settlement Administration Agent (SAA)
- Balancing Mechanism Reporting Agent (BMRA)



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About This Document



Not sure where to start? We suggest reading the following sections:

- Have 5 mins? Read section 1
- Have 15 mins? Read sections 1, 12 and 13
- Have 30 mins? Read 1, 2, 3, 4, 5, 10, 11, 12 and 13
- Have longer? Read all sections and the annexes and attachments
- *You can find the definitions of the terms and acronyms used in this document in the [BSC Glossary](#)*

This is the P448 Final Modification Report, which Elexon has submitted to the Authority on behalf of the BSC Panel. It includes a summary of the Workgroup's assessment, the Panel's full views and the responses to both the Urgent Modification Consultation and the EBGL Consultation. The Authority will consider this report and will decide whether to approve or reject P448.

There are five 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

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Version 1.0

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Reference, and contains details of the Workgroup’s membership and full Terms of Reference.

- Attachment A contains the approved redlined changes to the BSC and Code Subsidiary Documents (CSDs) for the P448 Proposed Modification.
- Attachment B contains the approved redlined changes to the BSC and CSDs for the P448 Alternative Modification.
- Attachment C contains the PUBLIC responses received to the Urgent Modification Consultation.
- Attachment D contains the PUBLIC responses received to the EBGL Consultation.

Why Change?

The war in Ukraine and resultant gas shortages in Europe significantly increases the risk of Generators in Great Britain being prevented from generating this winter (due to Load Shedding during a Network Gas Supply Emergency). If that happens Generators are likely to incur massive Imbalance Charges and credit cover requirements, potentially causing them to become insolvent. Even if such an emergency does not occur, the risk that it could occur is likely to force Generators to reduce their forward and Day Ahead trading, reducing liquidity in electricity markets, and raising costs for electricity consumers.

Solution

P448 proposes to create a mechanism in the relevant BSC Sections that would protect Generators from excessive Imbalance Charges that they may incur as a result of Load Shedding under a Network Gas Supply Emergency (NGSE) at Stage 2 or higher. A new form of Acceptance is proposed which would be settled as a Bid for affected units. The affected units would submit Physical Notifications (PNs) for the impacted period to reflect how they would have operated to meet their contractual position in the absence of a gas emergency, based on their contractual position at the point of receiving the Load Shedding instruction.

A new Network Gas Supply Emergency Settlement Validation Committee (NGSESVC) is proposed to be established to verify the data used in Settlement (and amend it if necessary).

The Workgroup developed both a Proposed and Alternative solution to Modification P448. The solution for the Alternative Modification retains all the aspects of the Proposed outlined above, but it provides the NGSESVC with additional powers that are intended to make the protection of the P448 solution available to a broader range of embedded generators.

The case for Urgency

Ofgem [decided¹](#) that P448 should be treated as an Urgent Modification Proposal on 30 September 2022 as they were satisfied it is related to a current issue, that if not urgently addressed, could have a significant commercial impact on parties, consumers or other stakeholders and a significant impact on safety and security of the electricity and/or gas systems.

P448 is being progressed jointly with Grid Code Modification [GC0160²](#) - Grid Code Changes for BSC Mod P448: "Protecting Generators subject to Firm Load Shedding during a Gas Supply Emergency from excessive Imbalance Charges". GC0160 seeks to ensure that the actions of the affected party relating to PNs are aligned with the P448 Proposed and Alternative solution. In providing their decision on urgency, Ofgem noted the need for strong coordination between the Grid Code and BSC. Joint Workgroups have been held to refine and develop the solution collaboratively across both code bodies.

¹ <https://www.ofgem.gov.uk/publications/p448-decision-urgency>

² <https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0160-grid-code-changes-bsc-mod-p448>

Impacts & Costs

P448 will impact Generators, Suppliers, Trading Parties, the Settlement Administration Agent (SAA), the Balancing Mechanism Reporting Agent (BMRA) and the NETSO. The NETSO will be expected to construct Acceptance Data for NGSE Acceptances. Generators will have a new obligation to retain and furnish (when required) records (in the event of a NGSE). Suppliers and Trading Parties who pay Balancing Services Use of System (BSUoS) Charges may face a different charge. P448 impacts the Credit Default process, which is administered by BSCCo (Elexon), and Elexon will be expected to support the proposed NGSESVC (in the event of an NGSE).

Costs Estimates			
Organisation	Implementation (£k)	On-going (£k)	Impacts
Elexon	<5	Low to medium	<p>Minor implementation costs associated with the drafting and implementing BSC Sections B, G, M, Q, T, X-1 and X-2. Also, drafting and implementing BSCP18, SAA Service Description and NETA IDD Part 2 Document. In addition, minor costs, which are still being assessed, will be incurred for the preparatory work undertaken to support the BSC Panel in determining how the NGSESVC is established and procuring expert advice/analysis.</p> <p>The ongoing costs relate to the operation of processes in the event of an NGSE. These are in relation to operation of the NGSESVC and procurement of specialist advice/analysis and members and amendments to the Credit Default process. These costs will depend on the scale of any NGSE event. The procurement is still on going at the time of writing.</p>
NGESO	Low	Medium	<p>The implementation costs are expected to be low, associated with NGESO's control room and settlements teams being required to adapt the change. Ongoing costs are also expected to be medium in the event of an NGSE, associated with furnishing Acceptance data, which will require additional resource. These costs will depend on the scale of any NGSE.</p>
Industry	Low	Low	<p>The implementation costs are mainly related to administrative changes required to adopt the process outlined in the solution, in the event of a NGSE.</p>

Costs Estimates			
Organisation	Implementation (£k)	On-going (£k)	Impacts
EMRS	Low	0	A workaround solution will be needed if P448 is approved to exclude from the calculations that the CM Settlement system performs when determining reductions to Capacity Providers' obligations in accordance with Rule 8.5.4(a)
Total	Low	Medium	The majority of ongoing costs will only be incurred in the event of an NGSE.

Implementation

The Panel and the Workgroup recommends that the P448 Proposed or Alternative Modification is implemented **1WD following Authority decision**, as part of a special BSC Release. This will ensure the Modification is implemented as soon as possible and is the same implementation approach as GC0160.

Recommendation

The Panel unanimously recommend that the P448 **Alternative Modification should be approved** and the P448 **Proposed Modification should be rejected**. The Panel believe the Alternative Modification better facilitates Applicable BSC Objective (c), 'competition', compared to the Proposed. The Panel believe both the Proposed Modification and the Alternative Modification are better than the current baseline. The Workgroup also **unanimously** believe that P448 **does** impact the **EBGL article 18** terms and conditions held within the BSC.

2 Why Change?

What is the issue?

Russia's turning off of the Nord Stream 1 gas³ supply to Western Europe as a result of the Ukraine War, and the post-covid demand for gas, has recently significantly increased the risk of gas shortages during winter 2022/23. Given the interconnected nature of the gas market, this in turn increases the risk of gas shortages in Great Britain.

There is therefore a credible risk that Great Britain could be subject to one or more gas emergency scenarios during this winter. If this happens then gas supplies to the largest gas consumers with firm rights to gas may be curtailed – i.e. prevented from taking gas - for reasons of safety on the gas system. Gas fired power stations are some of the largest consumers of gas in Great Britain and therefore would expect to be some of the first sites to have their gas curtailed.

If these power stations have sold their power ahead of time through forward trading but are prevented from generating to deliver these volumes by a gas curtailment, then generators could be exposed to large volumes of electricity imbalance charges (plus the associated credit requirements). It is also likely that in these circumstances the NETSO would have to instruct other plant or demand side response to make up for the lost gas plant volumes, which could drive very high or indeed extreme levels of imbalance prices. The combination of high volumes of imbalance at extreme imbalance prices could be sufficient to cause generators to become insolvent, which would increase risks to security of supply.

In order to seek to manage this substantial risk, generators can only avoid putting themselves in the position of being exposed to such imbalances. The only way they can do this is to avoid contracting ahead of time either in forward timescales or even in day ahead markets. Indeed, the only way a generator can eliminate this substantial risk is to present their volume in the Balancing Mechanism (BM) so that any volumes generated are paid for on delivery and not open to imbalance risk. This inevitably reduces liquidity in traded markets to the disadvantage of all trading parties.

Background

A Gas Supply Emergency (GSE) refers to a situation where there's not enough gas available to meet expected demand, which could lead to loss of pressure in the gas network. The Network Emergency Coordinator (NEC) or a gas network can declare a GSE and is required to coordinate the actions of all gas networks during a GSE.

The gas system operator (GSO) is National Grid Gas. In the event of an expected shortfall in available gas, that has a potentially detrimental effect on gas pressures within the pipelines in GB, then this will lead to the GSO, in close cooperation with the NEC, taking action in accordance with the [Gas Safety Management Regulations](#)⁴ to address a significant (gas) safety concern which, at a high level, includes both a Stage 1 and a Stage 2 situation. It is only at Stage 2 that the gas load shedding would be applied to the largest gas users which, in respect of this Modification, concerns gas fuelled generators in GB.

³ For the avoidance of doubt, the references in this proposal to 'gas' is to natural gas.

⁴ A guide to the Gas Safety (Management) Regulations 1996. Guidance on Regulations - L80 (hse.gov.uk) <https://www.hse.gov.uk/pubns/priced/l80.pdf>

In order to demonstrate the possible size of the issue, and the potential threat to generators and system security, it is worth considering the approach that is likely to be taken when gas is curtailed under a gas emergency. The priority in such an emergency will be to prevent the disconnection of domestic customers' gas. Therefore, demand customers with lower priority will be taken off first. In order to maximise the effectiveness of these actions, customers are likely to be taken off in order of size.

Generators make up a large proportion of the largest gas customers in GB and will therefore likely be the first customers to be curtailed, again in order of size. By way of example, if we look at the 10 largest gas fired power stations⁵ represent a total capacity of around 12.8GW of capacity, meaning that their average size is around 1.28GW. The largest of these is 2.2GW and the smallest around 900MW.

The table below shows the status quo situation and the potential sort of imbalance costs which could be incurred if these stations were to be fully contracted and then curtailed for 24 hours. It does so on the basis of three levels of imbalance price: £3,000/MWh, £6,000/MWh and £9,000/MWh. The first has been chosen as it is similar in size to the offer prices which were experienced on occasion last winter (2021/22), the second as it is the current level of the Value of Lost Load (VoLL) and the third as it is around the level of the price at which some actions were taken by the ESO on 20 July 2022, albeit in these circumstances for (electricity) system purposes. It would not be unrealistic to assume that, in a period when there is a significant shortage in the supply of gas leading to gas curtailment of Combined Cycle Gas Turbines (CCGTs) etc., that there could also be significant scarcity in the electricity market too, and that actions around these sorts of levels may be accepted and go on to set imbalance prices. This could particularly be the case if customers are curtailed at prices factoring in their particular values of lost load, or if system to system trades are taken over interconnectors.

		Imbalance Price		
	MW	£3,000/MWh	£6,000/MWh	£9,000/MWh
Max	2200	£158.40m	£316.80m	£475.20m
Average	1280	£92.16m	£184.32m	£276.48m
Min	900	£64.80m	£129.60m	£194.40m

Table 1: Illustrative Imbalance exposure for each 24 hours' curtailment at full output.

Although the above table may show the worst-case scenario for a single power station by assuming that all of its capacity is contracted for the whole day, in reality generators might have multiple stations curtailed and / or the gas emergency could run for several days, or indeed weeks, during which significant imbalance exposures could accrue. Therefore, it is clear that gas fired generators in GB face a potentially significant risk associated with gas (safety) emergency actions.

In the event that an imbalance situation did arise for the generator, and noting the illustrative quantum(s) set out in the table above, this would also be expected to quickly result in a substantial credit call arising (absent this Modification) which could place the affected generator into default and thence to exit the market with the resulting market

⁵ Based on the NETSO's published Transmission Entry Capacity (TEC) Register.

liquidity impacts noted above as, for example, has been seen with the Calon Energy market exit⁶. Furthermore, in the event that the affected generator went into payment default, then the resulting shortfall would rest with other BSC Parties, which would also be detrimental to those BSC Parties.

Desired outcomes

The Proposer intends to amend the BSC to ensure that the defect is rectified in a timely manner so that Generators are not exposed to excessive imbalance charges and / or Credit Cover charges in the event of Load Shedding being required as a result of a Stage 2 (or higher) Network Gas Supply Emergency occurring, and that the resulting curtailed electricity volume is settled as a Bid at an appropriate price in order not to disadvantage those parties.

The Workgroup agrees with the Proposer's principle for implementing the P448 Proposed Modification. However, the majority believe the P448 Alternative solution will provide protection to other generators that would not be covered by the Proposed solution, and further, provide greater benefit to industry.

⁶ [Calon Energy's UK gas plants put in 'dormant state' by administrators - Energy Live News](#)

Proposed solution

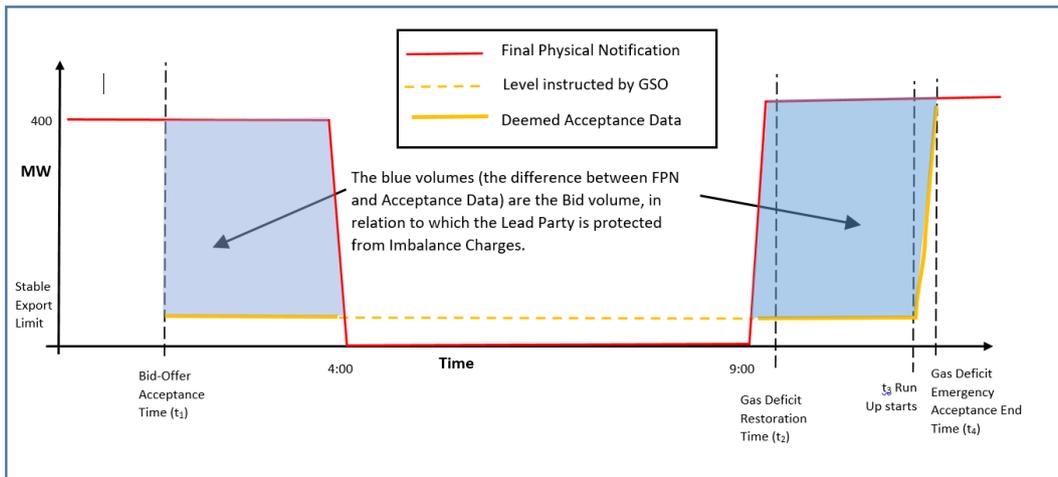
The proposed solution can be summarised as follows:

1. Load Shedding instructions issued to gas-fired generators during Stage 2 or higher (Stage 2+) of a Network Gas Supply Emergency shall be treated for BSC purposes as Bids.
2. Acceptance Data relating to these Bids will be constructed by the NETSO after the event, and entered into Settlement. The Acceptance Data will reflect the impact of the Load Shedding on the affected generators. For example, in the case of a Generating Unit with its own BM Unit that was instructed not to take any gas for a period of time, the Acceptance would show the BM Unit generating zero MW for the entirety of that period, and then ramping back up to its Final Physical Notification (in accordance with its Ramp Rates and other Dynamic Data).
3. As for any Acceptance, the 'baseline' used to calculate the Bid volume is the Final Physical Notification. The intention of the solution is that this baseline should reflect the contractual position the Generator had entered into prior to receiving the Load Shedding instruction. To facilitate this, Grid Code Modification GC0160 (which is being progressed in parallel to P448) amends the Grid Code rules relating to Physical Notifications, for BM Units subject to Load Shedding within Stage 2 or higher of a Network Gas Supply Emergency.
4. As for other Bids, the Accepted Bid volume will be calculated as the difference between the Acceptance Data and Final Physical Notification. The Lead Party (or Subsidiary Party, in the case of a BM Unit subject to a Metered Volume Reallocation Notification) will therefore be protected from Imbalance Charges on this volume. This has the effect of protecting generators from Imbalance Charges caused when Load Shedding prevents them from delivering power they sold prior to receiving the Load Shedding instruction.
5. The solution described above depends on Generators accurately submitting Physical Notifications that reflect their contracted positions at a certain point in time, and doing so quickly during potentially difficult circumstances on the gas and electricity systems. To mitigate the Settlement impact of any error in this data, a new Panel Committee (the "Network Gas Supply Emergency Settlement Validation Data Committee" or NGSESVC) will meet after the event to verify the data used in Settlement (and amend it if necessary). In particular, this Committee could:
 - Reduce the Final Physical Notifications, if they are not satisfied that they reflect the contractual position prior to receipt of the Load Shedding Instruction; or
 - Amend the Bid Price, if they are not satisfied that it reflects the net saving in Avoidable Costs from not being able to generate.
6. Responsibility for establishing the Network Gas Supply Emergency Settlement Validation Committee will lie with the BSC Panel. The expectation is that the arrangements relating to this Committee will be closely modelled on the existing provisions for the Claims Committee (which looks at certain claims for costs arising from Section G Contingency arrangements).

Constructing the Acceptance Data

Constructing Acceptance Data for Network Gas Supply Emergency Acceptances (NGSEA) is the responsibility of the NETSO. The trigger for this process will be the Lead Party informing the NETSO and BSCCo that their Generating Unit was subject to Load Shedding during Stage 2 or higher of a Network Gas Supply Emergency.

The NETSO will construct Acceptance Data that reflects the reductions in the BM Unit's Final Physical Notification arising from the Load Shedding. For example, the diagram below illustrates a BM Unit where the contracted position (as reflected in the FPNs) was to run at 400 MW for most of the day, but dropping down to zero between 4:00 and 9:00:



At time t_1 , the Generator received a Load Shedding instruction. In this case, the Gas System Operator (GSO) informed the Generator that they were required to reduce their offtake gas, but were permitted to continue taking sufficient gas to operate at their Stable Export Limit (SEL). The GSO may give an instruction of this form when told by the Electricity System Operator that the station is needed to maintain stability on the electricity system.

The Acceptance Data (orange line) reflects this by dropping down to the level of SEL, rather than zero. However, the Acceptance Data should never drop below the FPN, as that would create an Offer Acceptance. For this reason, the Acceptance Data follows the FPN to zero between 4:00 and 9:00.

Credit Cover Requirements

Although treating the NGSEA as a Bid has the effect of protecting the Lead Party from certain Imbalance Charges, details of the accepted Bid Volume will not be immediately available to the BSC Systems used to calculate credit cover requirements. It is therefore likely that, in the days following receipt of the Load Shedding instruction, these systems will report to Elexon that the Lead Party has insufficient credit cover. However, Elexon has discretion not to place the party into Credit Default, if they have reason to believe that the reported shortfall in credit does not reflect the true position. The proposed solution includes amendments to Section M of the BSC to clarify that this discretion should be applied (if appropriate) where an NGSEA has led to an apparent shortfall in credit cover.

The Workgroup has discussed two different forms of drafting to achieve this. One requires Elexon to use the existing provisions for material doubt. The other is modelled on the

Credit Cover provisions for existing Section G Contingency Arrangements. [The Workgroup decided that the second form of drafting was clearer, and this therefore forms part of the solution.](#)

Verifying the Final Physical Notifications

One of the key roles of the NGSESVC will be to verify that Final Physical Notifications reflect the contracted position entered into at the point the Load Shedding instruction was received. In particular, GC0160 proposes that:

- The Lead Party should submit Physical Notifications that reflect the position the BM Unit had contracted to deliver at the point it received the Load Shedding instruction;
- The Lead Party should not reduce their Final Physical Notifications to reflect the impact of Load Shedding on the BM Unit; and
- The Lead Party may adjust the Physical Notifications to reflect any decreases in their contracted position after they receive the Load Shedding instruction (i.e. energy purchases); but may not adjust the Physical Notifications to reflect any increases in their contracted position after they receive the Load Shedding instruction (i.e. additional energy sales).

The intended effect of this is that the relevant BSC Party should be protected from Imbalance Charges in relation to energy volumes that were reflected in their contracted position at the point the Load Shedding instruction was received. But what exactly constitutes a contracted position for this purpose? Under the draft legal text for the Proposed solution, the Lead Party will only be protected if their contracted position is reflected in Energy Contract Volume Notifications. The following scenarios illustrate this.

Scenario 1 – Bilateral Trade between Lead Party and another BSC Party

To illustrate this scenario, suppose that:

- The Lead Party had (prior to receiving the Load Shedding instruction) agreed a firm contract to sell a defined MWh volume of Active Energy to another BSC Party. This contract might (for example) be a forward trade, or the outcome of a Day Ahead power auction; and
- This volume was notified as an Energy Contract Volume Notification (ECVN).

Because this MWh volume was sold prior to receipt of the Load Shedding instruction, and was notified as an ECVN, the Lead Party is potentially protected from Imbalance Charges. Note that the ECVN does not have to be notified prior to receipt of the Load Shedding instruction (provided that there is timestamped evidence to demonstrate that the agreement was reached prior to that point).

However, it should be noted that power contracts do not necessarily identify the BM Unit or generating unit to which they relate (and ECVNs never do). The Lead Party may therefore need additional evidence to show that the intention (prior to receiving the Load Shedding instruction) was to deliver the contracted volume using the generating unit affected by Load Shedding (and not some other generating unit). The nature of this evidence will depend on the specific circumstances relating to the Lead Party and their other BM Units. For example:

- **Scenario 1A:** The Lead Party is a generator with several BM Units, and they can demonstrate (from historical evidence) that they typically despatch these in a certain merit order. This should allow the NGSEVC to ascertain which BM Unit(s) would have been used to deliver the contracted volume.
- **Scenario 1B:** The Lead Party is a Supplier, and the BM Unit contains a number of power stations with which they have Power Purchase Agreements (PPAs). The Supplier sells power in the Day Ahead market based on specific instructions from the generators operating these power stations. Therefore, each Day Ahead trade can be linked with a specific timestamped instruction from the operator of a specific power station, allowing the NGSEVC to identify the contracted positions associated with each power station in the BM Unit.

Scenario 2 – Bilateral Trade between Subsidiary Party and another BSC Party

This is similar to scenario 1, except that the Lead Party uses a Metered Volume Reallocation Notification (MVRN) to transfer 100% of their Metered Volume to a Subsidiary Party, who trades the power. The legal drafting covers Subsidiary Parties as well as Lead Parties, so the existence of the MVRN should have no impact on which volumes are protected from Imbalance Charges.

Scenario 3 – Spill without a contract

In this scenario, the Generator decides (prior to receiving the Load Shedding instruction) that they will increase their output, without having sold the energy i.e. they intend to 'spill' and receive the Imbalance Charge. For example, they might do this because they expect the Imbalance Price to be high; or because they expect there to be a Capacity Market Stress Event, and would then need to spill in order to meet their Capacity obligations.

P448 is intended to protect Generators from paying Imbalance Charges on electricity they were unable to generate; but not to pay them Imbalance Charges where Load Shedding deprived them of the opportunity to spill. As a result, the NGSEVC would not allow the 'spill' to be included in their Final Physical Notification (for purposes of settling the Network Gas Supply Emergency Acceptance).

Scenario 4 – Supply to customers

This is similar to Scenario 1B, in that the Lead Party is a Supplier, and the BM Unit contains a number of power stations with which they have Power Purchase Agreements (PPAs). The generators inform the Supplier at Day Ahead how much energy they will be generating. However, the Supplier does not sell the energy into the market, but uses it to supply their own portfolio of customers.

From a BSC viewpoint, the day ahead notification is a matter between the Supplier and generator, and is not 'firm' for any BSC purpose (e.g. no-one will necessarily be subject to Imbalance Charges if it is not delivered). Unless the Supplier was able to demonstrate a clear and documented link between the notification from the generator and the energy volumes in their ECVNs, the NGSEVC would not allow the volumes to be included in the Final Physical Notification (for purposes of settling the Network Gas Supply Emergency Acceptance).

However, this type of contractual arrangement could be covered by the Alternative Solution, provided there was evidence that the notification between generator and Supplier is firm (in the sense of exposing the generator to Imbalance-related payments if they do not deliver).

Alternative solution

The solution for the Alternative Modification retains all the key aspects of the Proposed, but it provides the NGSESVC with additional powers that are intended to make the protection of the P448 solution available to a broader range of embedded generators:

- The Alternative permits the NGSESVC to create Final Physical Notifications, Acceptance Data or Bid-Offer Data from scratch, if such data does not already exist in Settlement. This allows the NGSESVC to ensure that the treatment of Bids arising from Load Shedding is appropriate even if the relevant BM Unit does not submit Physical Notifications or Bid-Offer Data to the NETSO, or if (for some reason) the NETSO had been unable to create Acceptance Data.
- The Alternative permits the NGSESVC to increase Final Physical Notification Data as well as reduce it. As in the Proposed, the NGSESVC will be able to reduce the level of the FPN if the evidence suggests that better reflects the contracted position (prior to the Load Shedding event). But the Alternative additionally allows the NGSESVC to increase the FPN, if the value submitted under the Grid Code was lower than the contracted position (e.g. due to a mistake by the generator).
- The Alternative provides an alternative mechanism for demonstrating that a firm contractual position was agreed prior to the Load Shedding. Whereas the Proposed only recognises contractual positions that were notified as ECVNs, the Alternative also allows an agreement between Lead Party and generator (e.g. in scenario 4 above) to be taken as evidence of a contracted position, provided that the contract includes provisions for the generator to be charged for failure to deliver, at a price which is (on average) equal to or higher than System Buy Price. Note that extending the scope to include the case where the price for non-delivery is higher than System Buy Price was a change made to the Alternative solution by the Workgroup as a result of responses to the EBGL consultation.
- The Alternative permits gas-fired generators who are co-located with demand (and therefore do not Export to the Total System) to access the P448 solution.

Benefits

The Modification allows Generators subject to Load Shedding in a Stage 2+ Network Gas Supply Emergency some protection from Imbalance Charges, and in doing so reduces the risk that they will be forced into insolvency by events entirely outside their control. This benefits not just the affected generators but the electricity market and consumers as a whole, because:

- If generators do become insolvent their power stations are likely to be withdrawn from the market for a significant period, at a time when generation is already likely be in short supply. This would have an adverse effect on electricity markets, and increase costs for consumers.
- Even if a Network Gas Supply Emergency does not occur this winter, the possibility that it could may force generators (in the absence of this Modification) to limit their trading in forward and Day Ahead markets, and instead trade close to real time (e.g. in the Balancing Mechanism). This Modification will reduce the need for gas-fired generators to do that, increasing liquidity in forward and Day Ahead markets.

This Modification does not protect Generators from all Imbalance Charges arising from Load Shedding, only those that relate to contracted positions entered into in advance. This is intended to ensure that the Modification does not create perverse incentives for generators to continue trading while subject to Load Shedding even when they are unlikely to be able to deliver the traded volumes.

The Alternative Modification extends the solution to apply to a broader range of generators, specifically those generators that are not active within the BM. This potentially extends the benefits outlined above.

Legal text

To give effect to P448, amendments are required to:

- [BSC Section B 'The Panel'](#)
- [BSC Section G 'Contingencies'](#)
- [BSC Section M 'Credit Cover and Credit Default'](#)
- [BSC Section Q 'Balancing Mechanism Activities'](#)
- [BSC Section T 'Settlement and Trading Charges'](#)
- [BSC Section X Annex X-1 'General Glossary'](#)
- [BSC Section X Annex X-2 'Technical Glossary'](#)
- [BSCP18 'Corrections to Bid-Offer Acceptance Related Data'](#)
- [SAA Service Description](#)
- [NETA IDD Part 2 Document](#)
- [SAA User Requirements Specification](#)

Specifically, the changes to BSCP18 will cover the following:

- New type of Emergency Instruction - "Network Gas Supply Emergency Acceptance"
 - Will be processed via existing Emergency Instruction process in Section 3.4, except
 - Aim to process all Network Gas Supply Emergency Acceptances by II, with a backstop of SF; and
 - No prior agreement from impacted Parties required
- New Section 3.5 for the end-to-end Network Gas Supply Emergency Acceptance process, including:
 - Notification of a Lead Party being instructed to shed load;
 - Post-hoc review of Acceptance Data by the Network Gas Supply Emergency Settlement Validation Committee; and
 - Potential adjustment of Acceptance Data in SAA (prior to Final Reconciliation) where directed by the Committee

- New Appendices:
 - Process for Settlement of Network Gas Supply Emergency Acceptances (detail is different for the Proposed and Alternate Modifications)
 - Draft Terms of Reference for the NGSESVC

Are there any (other) alternative solutions?

The Workgroup considered whether the scope of the solution should be extended to generators who are unable to generate as a result of the GSO suspending daily auctions for exit capacity (either in Stage 1 of a Network Gas Supply Emergency, or prior to an Emergency). Because of a lack of clarity around the UNC provisions and processes the GSO would use, the Workgroup agreed not to include this in either the Proposed or Alternative. The Workgroup suggested that parties affected by this issue could raise it as a separate Modification Proposal, if necessary.

4 Impacts & Costs

We have used the following cost categories:

High: >£1 million

Medium: £100k-1000k

Low: <£100k

Estimated implementation costs of P448

No changes are required to BSC Systems. However, changes are required to Elexon processes. Costs to implement the BSC document changes will be less than £5k. There will be additional implementation costs related to procuring expert advice and analysis to support the NGSESVC as well as costs related to establishing the NGSESVC. At the time of writing these are still being established but are expected to be low.

Ongoing BSC Costs will depend on how many NGSE events occur, for how long and the magnitude of any event. If P448 processes are triggered costs may be expected to be low to medium within a year, assuming NGSE events are not frequent and for prolonged periods. In the absence of P448 processes being triggered costs will be low, limited to maintaining the commercial arrangements needed to support P448, such as the NGSESVC and validation experts.

Implementation costs

Implementation cost estimates			
Organisation	Item	Implementation (£k)	Comment
Elexon	Systems	0	No impact identified.
	Documents	<5	Costs associated with updating the relevant BSC documents.
	Other	Low	Activities to support the BSC Panel with determining an approach to establishing the NGSESVC as well as establishing NGSESVC. Procuring expert advice and analysis to support the NGSESVC. Pending feedback from our service provider, there may be costs associated to implementing changes to the process in BSCP18.

Implementation cost estimates			
Organisation	Item	Implementation (£k)	Comment
NGESO	Systems & process	Low	NGESO control room and settlements team will implement the process to construct Acceptance Data for NGSE Acceptances and submit these to central systems.
Industry	Systems & processes	Low	No system impacts identified. Costs are expected to be low, associated with updating data retention and audit policies and processes to support the NGSESVC.
EMRS	Systems & processes	Low	A workaround solution will be needed if P448 is approved to exclude from the calculations that the CM Settlement system performs when determining reductions to Capacity Providers' obligations in accordance with Rule 8.5.4(a)
Total		Low	

Estimated on-going costs of P448

On-going cost estimates		
Organisation	On-going (£k)	Comment
Elxon	Low to Medium	<p>The on-going costs mostly depend on the whether a NGSE event occurs. These are:</p> <ul style="list-style-type: none"> - Costs associated with supporting the proposed NGSESVC - Costs for expert advice/analysis and potential membership of the NGSESVC - Costs to support operation of amendments to the BSC credit cover process <p>Due to urgency, we haven't been able to fully assess the ongoing monetary costs. However, we have outlined above, the main areas that will influence the on-going costs, post implementation of P448 and will report back to the Panel once costs are established.</p> <p>There will be minor costs to maintain the commercial arrangements needed to support P448.</p>

On-going cost estimates		
Organisation	On-going (£k)	Comment
NGESO	Medium	Costs associated with providing the Acceptance Data in the event that Load Shedding under an NGSE at Stage 2 or higher occurs.
Generators	Low	Industry responses indicate that ongoing costs are expected to be low, mainly linked to administrative activities to ensure appropriate audit trails are maintained for data that may be required by the NGSESVC.
Total	Medium	

Any on-going costs are expected to be far outweighed by the benefits of P448 i.e. in the absence of P448 the negative impact on imbalance charges from a NGSE would far outweigh the operational costs of operating P448.

P448 impacts

Impact on BSC Parties and Party Agents		
Party/Party Agent	Impact	Estimated cost
Supplier, Generators and Trading Parties	Parties who pay BSUoS and Residual Cashflow Reallocation Cashflow (RCRC) will face different charges (compared to P448 not being implemented) e.g. payers of RCRC may lose out on potential windfall from distressed generators. Impacted parties will also need to retain relevant evidence for the NGSESVC.	H

P448 will impact Suppliers, Generators and some Non-Physical Traders through its effect on Balancing Services Use of System Charges (BSUoS) and Residual Cashflow Reallocation Cashflow (RCRC):

- In the absence of P448, generators subject to Load Shedding would be required to pay electricity Imbalance Charges on their contracted positions. To the extent that the affected generators remained solvent and made these payments, the funds would be redistributed to parties through RCRC. By removing these payments, P448 will impact those parties who receive (or pay) RCRC (i.e. Suppliers, Generators and the Subsidiary Parties of MVRNs).
- This reduction in RCRC payments under PP448 is likely to be partially offset by a decrease in BSUoS charges levied on CUSC parties, arising from the additional Bid Payments generators affected by Load Shedding will be required to make. However, this reduction in BSUoS charges arising from P448 may be small when seen in the overall context, which is that BSUoS charges could become high in the event of Load Shedding (due to the additional balancing requirements imposed on NGESO). It should also be noted that some of the BSUoS-related impacts of P448

(and more generally of Load Shedding this Winter) could be deferred into 2023/24 as a result of CUSC Modification [CMP395](#)⁷.

The impacts on BSUoS and RCRC are potentially larger under P448 Alternative than P448 Proposed, due to more generators being included in scope.

Impact on the NETSO	
Impact	Estimated cost
As needed, NGESO will be required to construct and provide Acceptance Data (for NGSE).	M

Impact on BSCCo		
Area of Elexon	Impact	Estimated cost
Assurance	The Assurance team will provide oversight for the new Panel Committee	L
Supply Chain Management	The Supply Chain Management team will support the BSC Panel in sourcing for members of the NGSESVC and the associated expert advice and analysis	TBC

Impact on BSC Settlement Risks
P448 is not expected to directly impact on any BSC Settlement Risks, given that it seeks to protect parties from incurring excessive Imbalance Charge, as a consequence of a NGSE event.

Impact on BSC Systems and process	
BSC System/Process	Impact
None	No impact on the BSC Central Systems. However, a manual process will be completed by Elexon's service providers to load the much larger volume of acceptance data in the required timescales, where needed.

Impact on BSC Agent/service provider contractual arrangements	
BSC Agent/service provider contract	Impact
SAA	The SAA will be responsible for inputting the NGSEAs into the SAA database in accordance with BSCP18

⁷ <https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc-old/modifications/cmp395-cap-bsuos>

Impact on Code	
Code Section	Impact
BSC Section B 'The Panel'	New Section B3.6 establishing the "Network Gas Supply Emergency Settlement Validation Committee" (closely modelled on B3.5, which establishes the Claims Committee).
BSC Section G 'Contingencies'	New section G6 describing the process by which the Panel verifies that the Trading Charges calculated in relation to a Network Gas Supply Emergency Acceptance were consistent with defined principles; and (if not) directs appropriate amendments to Settlement data relating to that Acceptance. As for existing Contingency Provisions, Section G allocates these powers to the Panel, although in practice they would be delegated to a Committee (as envisaged by Section C3 – see above).
BSC Section M 'Credit Cover and Credit Default'	Amended to clarify that a Network Gas Supply Emergency may give rise to material doubt.
BSC Section Q 'Balancing Mechanism Activities'	Amended to define a Firm Load Shedding instruction (issued by a Gas Transporter during a Network Gas Supply Emergency) as being a new type of Acceptance (a " Network Gas Supply Emergency Acceptance ").
BSC Section T 'Settlement and Trading Charges'	Amended to explain the Section G process: The "Network Gas Supply Imbalance Adjustment Volume" i.e., the volume of Imbalance from which the Lead Party is protected, as a result of putting the Network Gas Supply Emergency Acceptance into Settlement; and The "Network Gas Supply Total Bid Payment" i.e., the total Bid Payment in relation to the Network Gas Supply Emergency Acceptance.
BSC Section X-1 'General Glossary'	New definitions to support the above amendments.
BSC Section X-2 'Technical Glossary'	New definitions to support the above amendments.

Impact on EBGL Article 18 terms and conditions
The Workgroup believe that this Modification impacts the BSC Provisions that constitute EBGL Article 18 Terms and Conditions, as described in BSC Section F, Annex F-2.
Elxon and the Workgroup believe that the changes specified in P448 are consistent with the EBGL Article 18 terms and conditions.

Impact on Code Subsidiary Documents	
CSD	Impact
BSCP18 'Corrections to Bid-Offer Acceptance Related Data'	Amended to provide guidance on how Network Gas Supply Emergency Acceptances are processed.

Impact on Code Subsidiary Documents	
CSD	Impact
NETA IDD Part 2 Document	
SAA Service Description	
SAA User Requirements Specifications	

Impact on other Configurable Items	
Configurable Item	Impact
None	No impact identified.

Impact on Core Industry Documents and other documents	
Document	Impact
Grid Code	There is a dependency upon the Grid Code GC0160 'Grid Code Changes for BSC Modification P448 "Protecting Generators subject to Firm Load Shedding during a Gas Supply Emergency from excessive Imbalance Charges" . GC0160 seeks to enable the P448 solution. The GC0160 solution is the same for both the P448 Proposed solution and P448 Alternative solution.

Impact on a Significant Code Review (SCR) or other significant industry change projects
On Tuesday 4 October 2022, Ofgem confirmed that P448 is SCR exempt.

Impact of the Modification on the environment and consumer benefit areas:	
Consumer benefit area	Identified impact
<p>1) Improved safety and reliability</p> <p>This Modification improves reliability and safety as it seeks to mitigate the risk to the security of supply in the electricity market, which could be caused by generators becoming insolvent due to extremely high imbalance charges and credit requirements.</p>	Positive
<p>2) Lower bills than would otherwise be the case</p> <p>This Modification ensures that the risk of reduced market liquidity is mitigated, which would significantly increase wholesale electricity prices, which would be passed on to consumers, reflected in their bills.</p>	Positive
<p>3) Reduced environmental damage</p> <p>The Workgroup (WG) did not believe P448 impacts this benefit.</p>	Neutral
<p>4) Improved quality of service</p> <p>The WG did not believe P448 impacts this benefit.</p>	Neutral
<p>5) Benefits for society as a whole</p> <p>The combination of benefits realised from improved safety and lowering bills will ultimately create benefits for society as a whole.</p>	Positive



What are the consumer benefit areas?

- 1) Will this change mean that the energy system can operate more safely and reliably now and in the future in a way that benefits end consumers?
- 2) Will this change lower consumers' bills by controlling, reducing, and optimising spend, for example on balancing and operating the system?
- 3) Will this proposal support:
 - i) new providers and technologies?
 - ii) a move to hydrogen or lower greenhouse gases?
 - iii) the journey toward statutory net-zero targets?
 - iv) decarbonisation?
- 4) Will this change improve the quality of service for some or all end consumers. Improved service quality ultimately benefits the end consumer due to interactions in the value chains across the industry being more seamless, efficient and effective.
- 5) Are there any other identified changes to society, such as jobs or the economy.

Recommended Implementation Date

The Panel and the Workgroup recommends the P448 Proposed or Alternative Modification is implemented **1WD following Authority decision**, as part of a special BSC Release. This will ensure the Modification is implemented as soon as possible.

The Implementation Date for the P448 Proposed and Alternative Modifications is aligned to the Grid Code GC0160 Implementation Date which is also 1WD following Authority decision.

Proposed P448 Solution and Draft Legal text

Exelon outlined an overview of the proposed solution, which explained how the Load Shedding (LS) instruction issued to a power station will be settled as an Acceptance, how the "material doubt" mechanism for credit cover will be used, and what records will be required to be furnished to the newly established Committee under this Modification.

Exelon explained that the proposed scope of the Solution relates to Load Shedding⁸ in Stage 2 or higher, which involves the largest gas users, most likely gas-fired power stations that produce electricity being curtailed during an emergency. A member wanted to clarify how Physical Notification (PNs) will be defined in the new scenario. Another member responded, advising that the intent of G0160, the corresponding Grid Code Modification, is to define PN and provide clarity on what level of data is required from the Lead Party to the NETSO.

To expand on the details of the proposed Solution, Exelon presented the proposed Draft Legal text, outlining the changes made to each impacted BSC Section.

BSC Section Q 'Balancing Mechanism Activities'

Bid-Offer Acceptances and Types of Gas Supply Emergency

Exelon introduced the current definition of what an Acceptance is for BSC purposes and noted that P448 proposes to add a third type of Communications in Section Q 5.1.3 (c). Further, Exelon outlined the draft text which highlights the instruction from Gas Transporters (GTs) during the Network Gas Supply Emergency (NGSE). Exelon noted that draft relies on a reference to the Uniform Network Code (UNC).

Exelon presented the types of Gas Supply Emergency to the Workgroup and noted the scope of P448 as being Load Shedding during Stage 2 of a GDE. Further, Exelon demonstrated an extract from the UNC, explaining the three Emergency stages and their respective process steps. The Workgroup discussed the scope and a member suggested, in response to the scope of emergency covered by P448 that the terminology should be "network emergency" to avoid including "Local" in the terminology as proposed in Section Q3.5.1. There were no objections from other Workgroup members and Proposer, so Exelon confirmed that it will include "Network Gas Supply Emergency" in the Section Q3.5.1 proposed draft redline text and that the reference would move from the UNC to the [Procedure for Network Gas Supply Emergency](#)⁹ document.

Clarification questions for Gas System Operator (GSO)

Exelon presented some initial questions and asked the Workgroup if there were any further clarification questions they wished to ask the GSO, to aid the creation of the P448 solution. Exelon noted that P448 applies to Load Shedding in a Stage 2 NGSE, thus the proposed questions to GSO are seeking to determine what scenario accurately applies to Generators.

⁸ Firm Load Shedding means the reduction or discontinuance of gas to a meter by a Transporter due to a Network Gas Supply Emergency, in order to keep the gas transportation network safely pressurised.

⁹ <https://www.nationalgrid.com/gas-transmission/document/136281/download>

The Workgroup agreed to the questions for the GSO and the GSO attended a subsequent P448/GC0160 Workgroup meeting to provide feedback. The Workgroup questions and GSO responses can be found below:

1. The Workgroup sought to understand the information published by GSO or NEC, in relation to LS in a Stage 2+ Network Gas Supply Emergency (NGSE):

Question/Scenario	GSO's response
Will the fact that Stage 2 has started be published? To everyone, or only to certain gas parties (e.g. Shippers)?	The notice relating to Stage 2 of the NGSE will be published on the GSO's website, and also sent to Shippers.
Will the fact that Load Shedding has started be published? To everyone, or only to certain gas parties (e.g. Shippers)?	This notice will be sent to all Shippers, but will not be publicly available (on the website).
Will details of the power stations subject to Load Shedding be published? To everyone, or only to certain gas parties (e.g. Shippers)?	This information is not published by GSO. The affected power station will know (and will inform the market of what has happened through REMIT and Maximum Export Limit (MEL) declarations).

2. The Workgroup sought to understand the form of communication that is used for notifying a National Transmission and Gas Distribution Network (GDN) connected power station who is subject to LS in a Stage 2+ NGSE:

Question/Scenario	GSO's response
Will the communication always be from the GSO/NEC to the power station (as opposed to a communication via a third party, such as Shipper)?	Yes, the communication will always go from the GSO/GDN to the affected power station (not via the Shipper).
Is there a form of words used in the telephone call that will allow the power station to know that this is Load Shedding in a Stage 2+ Network Gas Supply Emergency (as opposed to something else, like a Stage 1 emergency, or a Local Gas Supply Emergency)?	Yes, the GSO and GDN follow defined call scripts, which are clear on the legal basis for the instruction, and the relevant Stage of the NGSE. The scripts are not exactly the same between GSO and different GDNs, but contain the same information.
Is there a specific template used for the follow-up call or email (receipt of which could be used as evidence that that power station was indeed subject to Load Shedding in a Stage 2+ Network Gas Supply Emergency)?	Yes, there are defined templates used when sending the follow-up paperwork, which will provide evidence that there was Load Shedding during a Stage 2+ NGSE. The GSO will always send a follow-up email or fax; GDNs may not in all cases (due to the potential higher volumes)

3. The Workgroup sought to understand if there was anything that can be done to prevent other power stations from increasing their gas offtake during a NGSE:

Question/Scenario	GSO's response
In the context of a Stage 2+ Network Gas Supply Emergency, when some power stations have been subject to Load Shedding, is there anything to prevent other power stations from increasing their gas offtake to compensate?	No, there is the potential for power stations not (yet) subject to Load Shedding during the NGSE to increase their output.

4. The Workgroup sought to understand what happens when LS end:

Question/Scenario	GSO's response
When Load Shedding ends (i.e. power stations are allowed to start taking gas again), will they still be limited in how much they can take? Will they come back all at once, or separately? In any specific order?	The GSO and ESO have been working together to understand how restoration can take place in an orderly way, without causing further issues on the gas or electricity systems. This will involve bringing stations back in a phased way.

5. The Workgroup sought to understand the speed at which sites subject to LS are taken off during the NGSE:

Question/Scenario	GSO's response
How 'hard and fast' is the order in which sites are subject to Firm Load Shedding (as set out in UNC TPD Q3.5.1)?	There is discretion to vary the order, and the extent to which this is likely to happen depends (among other things) on how much notice is available (to the GSO) ahead of the Emergency.

One member stated that the GSO or NEC notifying industry participants other than power stations and Gas shippers will promote greater market transparency, however, noting that a Modification might be required to amend the rules in the Gas market. Another suggested that in the absence of a Gas Modification, a minor redline text could be drafted and included in the consequential Grid Code. Some other members believed that the suggestion was out of P448's scope, thus, should be addressed by another Modification, to which no objection was received.

Information required by the Network Gas Supply Emergency Settlement Validation Committee

Elxon explained that the P448 solution proposed to establish a new Validation Committee, the Network Gas Supply Emergency Settlement Validation Committee (NGSESVC) who will validate and verify the information furnished by Generators. Further, the proposed NGSESVC will be modelled like the existing Claims Committee outlined in Section B. Elxon invited the Workgroup to provide their views.

The Workgroup challenged whether the existing Claims Committee could be used but the Proposer felt this was not appropriate due to difference in knowledge and skills required.

The Workgroup discussed the provision on contract notifications to the NGSESVC and how the generator/Lead Party is incentivised to provide them to the committee to ensure their financial position is adjusted accurately. The evidence provided by the generator may relate to its whole portfolio in some cases, and not just the affected unit if this demonstrated further evidence to the NGSESVC. These would be exceptional circumstances and it is in the generators interest to provide the information. The Workgroup noted it would be helpful to amend the wording relating to the timing of provision of information to the NGSESVC to be specific.

The Workgroup expressed a concern that the data shared with the committee will be extremely sensitive. One option could be for Elexon to act as an intermediary and share anonymised data with the committee. This was dismissed as an option as the Panel already have access to sensitive information and the generator is incentivised to share it. One Workgroup member suggested that advice should be provided to parties to retain evidence and that on a regular basis they set out a profile on the basis of what they expect to sell/generate.

Does P448 impact on or extend the Network Code on Electricity Emergency and Restoration (NCER) provisions in the BSC?

The Workgroup considered and agreed with Elexon's recommendation that P448 does not impact on or extend the NCER provision in the BSC, as P448 does not relate to System issues.

What communication from GSO/NEC is treated as a Network Gas Supply Emergency Acceptance?

The Workgroup considered and noted the responses from the GSO in terms of the data and information that is treated as a NGSE Acceptance. The BSC will reference the Procedure for Network Gas Supply Emergency and the GSO provided clarity as to the information that a generator will receive in the event of LS in a Stage 2+ NGSE.

Effect of Network Gas Supply Emergency on Capacity Market and Ancillary Service payments

The Workgroup wanted to understand if the P448 solution interacts with the Capacity Market (CM) and Ancillary Services contracts, and what the impacts are.

The Workgroup believe that, in the absence of this Modification, gas-fired generators would not be protected from Capacity Market penalties if a Network Gas Supply Emergency meant that they were unable to deliver their Capacity Obligations during a Stress Event. The Workgroup also discussed whether this Modification would offer any protection to Generators from Capacity Market penalties; and, were it do so, whether this would be desirable.

The Workgroup believe there is a potential for interaction between this Modification and Capacity Market penalties, because the Modification treats volumes arising from Load Shedding as Period BM Unit Total Accepted Bid Volumes ($QAB^{kn_{ij}}$), and the Capacity Market Rules do adjust Capacity Provider payments for these (in Rule 8.5.4(a)). Under BSC rules these volumes would also be applied as adjustments to Expected Metered Volumes (QME_{ij}), which are also referenced in the Capacity Market Rules. However, to understand the full interaction between P448 and CM penalty payments is not necessarily straightforward. The Workgroup suggests that further investigation of this point may be required by bodies involved in Capacity Market delivery.

A number of Workgroup members felt that P448 is intended to protect Generators from Imbalance Charges rather than Capacity Market penalties, and that if there is such an interaction it is not the deliberate intention of this Modification. Elexon took an action to speak to BEIS and seek clarity on the interactions between P448 and the Capacity Market Rules.

Does the P448 solution work for power stations in an aggregated BM unit

The Workgroup discussed different BM Unit set up scenarios and agreed that the solution would work for power stations in an aggregated BM Unit. However, the scope of the Proposed solution would only include BM Units that are actively participating in the BM and that have submitted PNs. Details of possible Alternative solutions that are being considered by the WG, including expanding the scope of the solution to include BM Units where PNs were not submitted.



What are the Applicable BSC Objectives?

(a) The efficient discharge by the NETSO 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

P448 was issued for Urgent Modification Consultation on 7 October 2022, closing on 12 October 2022.

We received 22 responses, representing Generators, Suppliers, Virtual Lead Party and a Trade Body. One of the respondents provided their views via the non-standard Consultation document, rather providing general comments/questions via email, which we noted. Three responses were fully, or partly confidential. All non-confidential responses can be found in Attachment C.

Respondents Views against the Applicable BSC Objectives

The majority of respondents felt that P448 was positive in terms of facilitating BSC Objectives a, b or c. However many respondents noted that it would only be positive if the solution was expanded to include the potential alternative options being considered. In particular, this was because they believed that the Proposed solution did not offer intended protection to gas Generators who procure Exit Capacity at the Day-Ahead or intraday capacity auctions. The WG noted this.

P448 Governance and Implementation Approach

The majority of respondents agreed with Implementation **1WD** after Authority decision, noting the need to introduce the solution is urgent. The majority of the respondent's views were consistent with the Workgroup's in that P448 should be submitted to the Authority for decision, P448 is subject to the EBGL process and one-month Consultation period, and P448 is not expected to impact on any of the BSC Settlement Risks.

P448 Proposed solution approach and principles

The majority of respondents agreed with the draft legal text for the Proposed P448 Modification, with a few noting that the claims process could be clarified further. One respondent suggested that the WG consider expanding the solution to cater to non-BMU and BMUs that do not submit PNs or units connected at the Gas Distribution System (GDS). The WG noted this and agreed that the point on expanding the solution to cover more parties during an NGSE will be considered in the Alternative Solution.

Views on the Potential Alternative Solution

The majority of respondents preferred the potential Alternative Modification to the Proposed Modification that the Workgroup was considering. The key rationale drawn out from the responses relates to the scope of protection offered by the Alternative, which was more than the Proposed Modification. The minority who preferred the Proposed Modification noted that while there was merit in expanding the scope of protection, the Workgroup should endeavour to keep the Solution as focused as practicable, making it easier to implement as soon as practicable. The Workgroup noted this and confirmed that the views will be considered during the Alternative Modification review.

8 Updates Following First Urgent Consultation (Workgroup Views and Solution)

Further Workgroup Discussion

Clarification of how the solution interacts with MVRNs

Elexon provided an overview that the intention is that the Subsidiary Party would be covered under P448 if they could meet the same tests that the Lead Party would have had to in the absence of an MVRN. One Workgroup member queried whether MVRNs are all evergreen in practice and the group noted that the generally they all are so concern raised would not materialise.

The Lead Party would deal with the BOA and the Subsidiary Party would deal with Imbalance charges.

Change to definition of Physical Notification

This wasn't included in the consultation, but Elexon have since identified a change required to the definition of PN. Elexon presented the updated draft redline text, which catered to scenarios where a notification is made by (or on behalf of) the Lead Party for BMU and non-BMUs. The Workgroup noted and agreed to the proposed update.

ECVNs and what Contracted Position means.

The Workgroup discussed various scenarios in which ECVNs are used in relation to the contracted position.

One Workgroup Member believed that the P448 solution should be applied equitably to all BSC Parties, and being clear that an audit trail was required would encourage Parties to capture evidence if they were not previously. Elexon could provide guidance on the type of evidence that Parties would be expected to retain that may possibly require submission to the NGSESVC in the event of NGSE.

Credit Cover

Elexon considered the feedback from industry on the proposed approach to applying the Credit Cover. On reflection, Elexon noted that Material Doubt may not provide the appropriate cover. Further, Elexon suggested a different approach, which is modelled on existing Credit Cover provisions relating to Fuel Security Contingencies. The WG noted and agreed to this approach being included in the P448 solution.

Generating Units that don't export

In response to the views from industry on treating reduction in Export as a BOA, which highlighted an issue with current legal draft, in that it doesn't cater to situations where an imbalance is related to a CHP unit. Elexon suggested that the issue could be addressed by removing any references to Export in the legal text for the Proposed Solution. The WG noted and welcomed this suggestion. Elexon took an action to update Section Q5.1.3



What is the Self-Governance Criteria?

A Modification that, if implemented:

- (a) does not involve any amendments whether in whole or in part to the EBGL Article 18 terms and conditions; except to the extent required to correct an error in the EBGL Article 18 terms and conditions or as a result of a factual change, including but not limited to:

- (i) correcting minor typographical errors;
 - (ii) correcting formatting and consistency errors, such as paragraph numbering; or
 - (iii) updating out of date references to other documents or paragraphs;
- (b) is unlikely to have a material effect on:
- (i) existing or future electricity consumers; and
 - (ii) competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity; and
 - (iii) the operation of the national electricity transmission system; and
 - (iv) matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies; and
 - (v) the Code's governance procedures or modification procedures; and

(b) is unlikely to discriminate between different classes of Parties.

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Impact to Capacity Market Notices being Issued

Under the discussion of the Grid Code GC0160 consultation responses received, the NETSO raised a point about the impact of Maximum Export Limit (MEL) feeding into automatic process for CM Notices. The Workgroup confirmed that the P448/GC0160 solution impacts on PNs and not MELs. A Workgroup member asked if NETSO could provide some further understanding of any other notice processes that the PN could impact on.

Other GSO actions that could be considered an NGSEA

The Workgroup discussed other actions that could be taken by the GSO in emergency situations in the gas market, due to a suggestion made by a Workgroup member and responses to the initial urgent consultation.

It was suggested that the P448 solution should be extended to provide protection to generators outside of Load Shedding in an NGSE at Stage 2 or higher. Specifically, a concern was raised about the possibility that (prior to Stage 2) the GSO might suspend the daily auctions for Exit Capacity. A significant volume of generation does not hold enduring or annual firm exit capacity, and therefore relies upon the daily auction to obtain the exit capacity required to generate. Suspension of the auction could therefore expose those generators to electricity Imbalance Charges in the same way as a generator subject to Load Shedding.

Some Workgroup members believed that extending the triggers to gas 'pre-emergency' situations was outside the scope and defect of P448 that was clearly intended to cover Stage 2 NGSE and higher. Some Workgroup members also felt that there was a lack of transparency around exactly which provisions in the Uniform Network Code and/or Exit Capacity Release Methodology Statement the GSO would use to suspend the auctions, the circumstances in which they would do so, and the process that would be followed.

One Workgroup member stated that, in their view, the provisions of the Exit Capacity Release Methodology Statement relating to suspension of the auctions may go beyond the powers of the GSO envisaged in the UNC, and could therefore be regarded as ultra vires. They explained that they were attempting to clarify this issue with the GSO and with Ofgem, but had not yet succeeded in doing so.

The Proposer clarified that the Proposed solution would not be expanded to include these additional triggers. The Workgroup voted by majority to exclude references to additional actions that the GSO could take from the scope of the Alternative solution also. The key reasons for this decision were:

- Concern about the feasibility of fully developing the required solution within the required Urgent timetable, given the lack of clarity around the relevant gas provisions, when they would be used, and the process for doing so; and
- Some Workgroup members supported other aspects of the Alternative solution, but did not necessarily support the extension of the solution to actions taken before a Stage 2+ Network Gas Supply Emergency. Because the BSC process only allows a single Alternative, these Workgroup members suggested that an extension of the solution to cover auction suspension would be better handled via a separate Modification Proposal.

9 Workgroup's Conclusions following First Urgent Consultation



What are the Applicable BSC Objectives?

(a) The efficient discharge by the NETSO 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

The Proposer's initial views remained unchanged. The Proposer believes that the Proposed Modification would better facilitate Applicable BSC Objectives (a), (b) and (c).

Objective (a)

In respect of the NETSO's obligations relating to system balancing, with the associated benefits around security of supply, this change will facilitate the affected generators continuing to participate in the market and operate for system stability purposes in the event of a NGSE.

Objective (b)

The change will allow the NETSO to operate the NETS more efficiently, economically and in a more coordinated manner by continuing to have the affected plants stay available after a NGSE event occurs.

Objective (c)

It promotes liquidity in trader markets in timescales running up to real time.

The Workgroup Members believe by majority that the P448 Proposed Modification would better facilitate Applicable Objectives (a) and (b), for the reasons outlined by the Proposer. However, the Workgroup also recommended an Alternative Modification and believe by majority that it would better facilitate Applicable Objective (c) than the Proposed Modification, so should be approved.

Summary of Workgroup's views against the Applicable BSC Objectives

Does the P448 Proposed Modification better facilitate the Applicable BSC Objectives than the P448 Alternative?		
Obj	Proposed Modification	Alternative Modification ¹⁰
(a)	<p>Positive (Proposer) – facilitate affected generators continuing to participate in the market</p> <p>Positive (majority) - per the Proposer</p> <p>Neutral (minority) - no impact</p>	<p>Positive (majority) - facilitate affected generators continuing to participate in the market</p> <p>Neutral (minority) - no impact</p>
(b)	<p>Positive (Proposer) – allows affected plant to be available to NETSO after NGSE</p> <p>Positive (majority) - per the Proposer</p> <p>Neutral (minority) - doesn't not protect all generators, therefore, doesn't fully protect the system</p>	<p>Positive (majority) - allows affected plant to be available to NETSO after NGSE</p> <p>Neutral (minority) - hasn't fully captured all parties that will be affected in a NGSE thus, doesn't offer full protection to the system</p>

P448
Final Modification Report

18 November 2022

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¹⁰ Shows the different views expressed by the other Workgroup members – not all members necessarily agree with all of these views.

(c)	<p>Positive (Proposer) – promotes liquidity in markets in timescales up to real time</p> <p>Negative (majority) - doesn't treat all parties equally</p> <p>Neutral (minority) - no impact</p>	<p>Positive (majority) – protects more parties thus, promoting competition</p> <p>Neutral (minority) - no impact</p>
(d)	<p>Neutral (Proposer) - no impact</p> <p>Neutral/Negative (equal split) – introduces complexity</p>	<p>Neutral (majority) – introduces complexity and increase administrative activities</p> <p>Detrimental (minority) - added complexity</p>
(e)	<p>Neutral (Proposer) – no impact</p> <p>Neutral (unanimous) - no impact</p>	<p>Neutral (unanimous) - no impact</p>
(f)	<p>Neutral (Proposer) - no impact</p> <p>Neutral (unanimous) - no impact</p>	<p>Neutral (unanimous) – no impact</p>
(g)	<p>Neutral (Proposer) - no impact</p> <p>Neutral (unanimous) - no impact</p>	<p>Neutral (unanimous) – no impact</p>



What is the Self-Governance Criteria?

A Modification that, if implemented:

(a) is unlikely to have a material effect on:

- (i) existing or future electricity consumers; and
- (ii) competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity; and
- (iii) the operation of the national electricity transmission system; and
- (iv) matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies; and
- (v) the Code's governance procedures or modification procedures; and

(b) is unlikely to discriminate between different classes of Parties.

The P448 Proposed Modification

The initial views of the WG against the Applicable BSC Objectives considered whether the proposed solution was applicable to all sizes of gas fuelled generation. Some WG members felt that the scope of the proposed solution meant that the solution was negative against (c), in that it does not cover all parties that could face imbalance charges as a result of a gas curtailment. Other WG members considered (c) in the context of the probability that a gas curtailment would impact smaller generation sites. Others noted that it would be positive against (c) as it would encourage market liquidity, including in the longer term.

The initial views of the WG against (b) were in the majority positive, citing reasons such as more effective short-term balancing. Views against (a) were positive across the group noting considerations such as security of supply and system stability.

There were a variety of initial views expressed against (d) with some WG members believing that the proposed solution complicates the existing arrangements, while others felt it could avoid parties entering default.

The P448 Alternative Modification

The Workgroup believes by majority, that the P448 Alternative Modification would better facilitate Applicable BSC Objectives (a), (b) and (c). On Objectives (a) and (b), they provided the same reasons outlined in the Proposed Modification section above. On Objective (c), the proposed Solution seeks to protect more parties than the P448 Proposed Modification will, in the event of a NGSE. This ensures that all affected parties are treated equitably thus, promoting competition in the generation of electricity. The Workgroup believes by majority, that the P448 Alternative Modification would be neutral on Objectives (d), (e), (f) and (g), with some members stating that it will be negative against Objective (d) for reasons around the increase administration activities due to the accommodation of more parties.

Proposed versus Alternative

The majority of the Workgroup believed that the Alternative Modification better facilitated Objective (c) compared to the Proposed Modification on the basis that the Alternative protected more parties than the Proposed.

Self-Governance

The Workgroup unanimously agreed that P448 **should not** be progressed as Self-Governance Modification Proposal as it impacts Self-Governance criteria (b) (ii). This Modification will impact competition as through the protection of Generators during a NGSE. Also, P448 will require changes to the EBGL provisions contained in the BSC and so must be submitted to Ofgem for decision . Further, P448 is an Urgent Modification Proposal and so must be submitted to Ofgem for decision, in line with the Ofgem approved urgent procedure and timetable.

10 EBGL Consultation Responses

This section summarises the responses to the EBGL Consultation on the Workgroups recommendations. You can find the full responses in Attachment D.

We received 15 responses to the consultation, including one confidential response. The respondents represented Suppliers, Generators, ECVNAs, MVNAs, NETSO, Interconnector User and a Trade Body. All respondents agreed that P448 **should** be approved, and agreed with the Workgroup's initial recommendations.

The table and summary below captures the public responses only.

Summary of P448 Urgent EBGL Consultation Responses				
Question	Yes	No	Neutral/ No Comment	Other
Do you agree with the Workgroup's majority view that the P448 Proposed Modification better facilitates the Applicable BSC Objectives than the current baseline?	12	2	0	0
Do you agree with the Workgroup's majority view that the P448 Alternative Modification better facilitates the Applicable BSC Objectives than the current baseline?	14	0	0	0
Do you agree with the Workgroup's initial majority view that the P448 Alternative Modification better facilitates the Applicable BSC Objectives than the P448 Proposed Modification?	12	2	0	0
Do you agree with the Workgroup's view that the draft redlined changes to the BSC deliver the intention of the P448 Proposed and Alternative solutions?	12	1	0	1
Do you agree with the Workgroup's recommended Implementation approach?	14	0	0	0
Do you agree with the Workgroup's view that P448 should not be treated as a Self-Governance Modification?	14	0	0	0
Do you agree with the Panel's initial view that P448 does impact the EBGL Article 18 terms and conditions related to balancing held within the BSC?	13	0	1	0
Do you have any comments on the impact of P448 on the EBGL objectives?	2	12	0	0
Do you have any further comments on P448?	7	7	0	0

Views on the Applicable BSC Objectives and Legal text for the Proposed and Alternative

No new arguments were put forward.

The majority of the respondents believed that the Proposed Modification better facilitates Objectives (a), (b) and (c). The minority who disagreed noted that whilst they agree with the intent of the Modification, they did not believe the Proposed is structured to provide protection to wider generators thus, is detrimental to Objective (c).

There were mixed views from the respondents in regards to which Objectives the Alternative solution better facilitates. However, the majority of the respondents were aligned with the Workgroup's view that the Alternative solution better facilitates Objectives (a), (b) and (c). Reasons around the scope of protections provided to Generators were given as the greater benefit provided by the Alternative solution. The Workgroup considered and noted the responses in forming its final recommendations to the Panel.

The majority of the respondents believed that the Alternative solution better facilitates the Applicable BSC Objectives than the Proposed, with many of the respondents noting that it is better against Objective (c), given it seeks to treat all generators equitably. A respondent from the minority, who disagreed, noted that the Proposed is in line with the UK Government policy, which highlights the level of de-rated capacity that could warrant support via the Energy Markets Financing Scheme for generators. The Workgroup considered and noted the response.

Legal text

The majority of the respondents agreed with the draft redline text, with no additional comments provided. The respondent who disagreed highlighted the specific text around Imbalance charges referring to Imbalance price in one of the sections. They explained that some contracts may require generators to pay more than the cash-out prices or prices not related to cash-out. Therefore, they would prefer the wording to read "Imbalance penalties". The Workgroup noted this and provided their conclusion below.

Views on Self-Governance, Implementation approach and EBGL impacts

All respondents agreed with the WG's view that P448 should be:

- implemented as soon as practicable; and
- submitted to Ofgem for decision (not a Self-Governance Modification).

Respondents unanimously agreed with the impacts on the EBGL provisions held within the BSC. Regarding the EBGL impacts, it was highlighted that P448 will impact Objective (a) 'fostering effective competition, non-discrimination and transparency in balancing market', given P448 seeks to introduce a level of discrimination in the treatment of Imbalance Charges. The majority of the Workgroup agreed, with the minority not commenting. Some members acknowledged the point, but disagreed that P448 negatively impacts on EBGL Objective (a), as the solution would not introduce undue discrimination and one of the aims of P448 is to improve competition.

One of the respondents, who agreed with the implementation approach, called out four key points, three of which fall under the gas market rules and not the BSC rules. The point linked to the BSC rules was around the treatment of the BOAs in the CM calculation, which was address by the Workgroup in their discussion on CM interactions.

Question 9 – views on energy volume being priced at System Buy Price

There were mixed views on whether the requirements suggested in relation to what types of agreement (between generator and Lead Party) should qualify for protection under the Alternative. Some responses suggested the imbalance penalties in the gas generators contract should be protected, others suggested that the Alternative solution shouldn't be too prescriptive and should recognise that there are various contract scenarios. The majority of the respondents believed that the suggested requirements in the Alternative solution was appropriate, however, it is prudent to leave assessment of evidence to the validation committee.

General comments

A respondent noted that the Proposed and Alternative shouldn't be limited to Stage 2+ NGSE, and the "Stage 2+" reference should be excluded from the redline text in the applicable BSC Sections.

Another respondents suggested that Generators are allowed to update their PNs, when load shedding instruction last longer than initially notified, so that it reflects their new contracted position at the original expected end time. The respondent explained that prohibiting generators from increasing their PNs above the energy volume that a BMU has contracted at the start of a load shedding may prevent an affected BMU from undertaking further hedging.

Another member raised a few points for Ofgem to consider in its assessment of P448. These points were:

- Potential impacts on the process to issue system warning where these have an interaction with PNs;
- Impact on the GSO's ability to use commercial tools in advance of a NGSE;
- Potential removal of incentives for gas generators to reduce consumption ahead of a NGSE;
- Clear direction from Ofgem on the status of REMIT and market reporting requirements;
- The use of notifications to reflect the ongoing 'commercial' position of a Firm Load shed generators after it has been curtailed; and
- Impact to the current BSUoS deferral arrangements.

The Ofgem representative at the Workgroup noted these, and Elexon confirmed they would capture them for follow up with Ofgem and NGESO in the Final Modification Report. The Workgroup did note that they believe they have considered the commercial tools available to parties and still think they are incentivised to use them rather than enter into an emergency situation.

11 Workgroup's Conclusion following EBGL Consultation

The Workgroup reviewed and considered all consultation responses. We summarise the key discussions in this section, including the Workgroups justification for including or not including the views resulting from the consultation. A full record of responses impacting the solution, and the Workgroup's considerations can be found in Appendix 2.

Views on the EBGL Consultation responses

Elexon presented the outcome of the consultation, which ran for one calendar month, from Friday 14 October 2022 until Monday 14 November 2022. Elexon informed the Workgroup that the consultation received 15 responses, including one confidential response, which was not shared with the Workgroup, but will be submitted to Ofgem for consideration.

Scope of the Alternative (consultation question 9)

The Workgroup discussed responses to consultation question 9, which sought views on what types of agreement (between generator and Lead Party) should qualify for protection under the Alternative. The position consulted on was that the generator's intended generation (at the point the Load Shedding instruction was received) should be protected from Imbalance Charges if either:

1. The Lead Party had reflected that position in their Energy Contract Volume Notifications (ECVNs); and/or
2. The generator was required to pay the Lead Party for non-delivery of that volume at the System Buy Price.

The Workgroup agreed that the intention of point (2) is that the Lead Party should not levy a charge for non-delivery on the generator, where the Supplier was protected from Imbalance Charges by P448. The Workgroup noted that the Modification itself could not require this, as it was a contractual matter between generator and Lead Party.

The Workgroup discussed whether P448 Alternative should be extended to cover agreements where the non-delivery price was not equal to System Buy Price, but was on average higher than System Buy Price. The Workgroup agreed that this was appropriate, and that paragraph G6.1.4(b) of the Alternative legal text should be updated accordingly.

Additional GSO actions outside of an NGSE Stage 2+ event (Other GSO actions that could be considered an NGSEA)

A number of respondents highlighted their concern that both the Alternative and Proposed solutions did not consider actions that could be taken by the GSO outside of a Load Shedding event at NGSE Stage 2+. They stated that both solutions will only offer protection to generators who have booked Annual Firm Exit Capacity or who hold enduring capacity in the gas market. This was previously considered by the Workgroup, and they again considered if it was appropriate to extend the scope of what could be considered a NGSEA.

Despite further correspondence with the GSO, there was still a lack of clarity around the UNC provisions and processes the GSO would use, and the Workgroup agreed not to

include this in either the Proposed or Alternative. The Workgroup suggested that parties affected by this issue could raise it as a separate Modification Proposal, if necessary.

Does P448 impact the EBGL Objectives and Provisions?

Elexon presented a respondent's view that P448 will have a detrimental impact to EBGL Objective a) 'fostering effective competition, non-discrimination and transparency in balancing market', given it seeks to introduce a level of discrimination in the treatment of imbalance charges. One Workgroup member acknowledged the point, but noted the arrangement from P448 doesn't seek to unduly discriminate and that only gas generators could be subject to a gas curtailment. Another member stated that they did not believe it was a legitimate concern as overall P448 improves competition.

Clarifications to legal text

Elexon explained at the fifth Workgroup meeting that changes to the legal text had been made to ensure that gas-fired generators who were co-located with demand (and therefore did not Export to the Total System) were not prevented from accessing the P448 solution. The EBGL consultation document stated that the Workgroup had agreed to make this change to the legal text, but it was not included in the legal text circulated with the consultation. This arose as a result of differing understandings within the Elexon team on whether the Workgroup had in fact agreed this change (combined with the extremely tight timescale for preparing the consultation documents required by the Urgent Modification timetable).

The Workgroup discussed the issue again, and agreed that the change should be made to the Alternative legal text. And the Proposer stated that, having considered the further Workgroup discussions, the change should not be included in the Proposed, as that would move away from their desire for the scope of the Proposed to be narrowly drawn. As such, a generating unit that does not Export (due to co-located demand) would be excluded from the scope of P448 Proposed.

Elexon also explained a potential change to paragraph G6.1.2(a) to clarify that Parties may need to retain records relating to power purchases as well as power sales (given that the generation from a gas-fired power station could reduce the Lead Party's purchases, rather than being sold). This comment had been raised by a Workgroup member in the hours prior to raising the EBGL consultation, but (in error) was not included in the issued legal text. The Workgroup and the Proposer agreed that this was a minor clarification to bring the legal text in line with the stated intention of the P448 solution, and should be incorporated into the legal text for both the Proposed and Alternative.

P448 Impact on Applicable BSC Objective F 'Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation'

A number of respondents to the consultation called for clarity on if and how P448 interacted with the Capacity Market. Elexon provided the Workgroup with an update on discussions held since the previous Workgroup meeting with BEIS and other bodies involved in delivery of the Capacity Mechanism, and with the [Capacity Market Advisory](#)

Group¹¹. The outcome of these discussions is that BEIS has now confirmed that deemed BOAs under P448 would not be considered as an instruction from the System Operator, so there is no impact on the CM Rules i.e. the P448 proposal will exert no change on SSEs, CMNs and delivery obligations for the purposes of the CM Rules.

In particular, this means that the Bid Volumes associated with Load Shedding instructions (under P448) should not be taken into account:

- By the System Operator, when determining whether a System Stress Event occurred in accordance with Rule 8.4.2(b); or
- By EMRS, when determining reductions to Capacity Providers' obligations in accordance with Rule 8.5.4(a)

A Workgroup member suggested that it was important for this interpretation of the CM Rules to be clearly and widely communicated, to ensure all parties were clear on their obligations, should a System Stress Event occur at the same time as Load Shedding. BEIS confirmed that they are considering how best to communicate this information, following approval of Modification P448.

Elxon explained that EMRS believe a workaround solution will be needed to ensure that Bids associated with Load Shedding instructions are excluded from the calculations that the CM Settlement system performs in relation to Rule 8.5.4(a). Elxon suggested that the need for this workaround could be seen as a negative impact of P448 on Applicable BSC Objective (f). The Workgroup noted that Workgroup members would have an opportunity to consider whether they believed this to be the case when they confirmed their views on Applicable BSC Objectives.

PN Submission during an NGSE Stage 2+

Another respondent suggested that Generators should be allowed to update their PNs, when load shedding instruction last longer than initially notified, so that it reflects their new contracted position at the original expected end time. The Workgroup considered this but did not believe the solution should be amended to incorporate this suggestion, believing that the solution should not be incentivising parties to purchase during an NGSE.

Introducing a time limit to P448 provisions

One respondent suggested that Ofgem may want to consider time limiting the provisions of P448 to only cover winter 2022/23 due to the unique market circumstances. The Workgroup discussed that this was outside of the intent of P448, but that a following BSC Modification could be raised to limit the provisions to this winter only, if P448 were to be approved by the Authority. This could also be considered as part of the post implementation review.

Non BSC Matters

Some respondents noted concerns outside of the BSC in their consultation responses. These include communication issued by the GSO under NGSEs and clarification of how the GSO would treat Operating Margins (OM) contracts under an NGSE. The Workgroup noted

¹¹ <https://cmag.elxon.co.uk/>

that these were matters for the gas market to address, but it had been helpful for the Workgroup to highlight these concerns for potential action outside the scope of P448.

Post-implementation review

Elexon highlighted some views from the respondents, which suggested that the below areas are considered in the post-implementation review. These areas are:

- Unintended impacts to cash-out prices;
- PNs for BMUs that have both demand and generation;
- A guidance document on the P448 solution and processes; and
- Consider how CCGTs with Operating Margins Contract will be treated – the principle that P448 protections should not be restricted if gas generators are offering OM services.

The Workgroup discussed this and concluded that the Cash-out arrangements should be prioritised during the post-implementation review. Further, the Panel will determine the scope and priority of the post-implementation review. Elexon recommends these are progressed via a BSC Issue.

Summary of Workgroup’s views against the Applicable BSC Objectives

The majority of the Workgroup recommend that the Alternative Modification is approved and the Proposed Modification is rejected.

No new views or arguments were provided by the consultation respondents.

The majority of respondents to the consultation believed that the Alternative Modification would better facilitate the BSC Objectives than the Proposed Modification and so should be approved. The main reason provided from the majority of the respondents was that the Alternative solution provides better protection to more Generators against the gas emergency risks, which was consistent with the Workgroup. The Workgroup acknowledged the update.

Overall, the majority of the Workgroup believe the Proposed and Alternative are better than the current baseline. New arguments against Applicable BSC Objective (f) were made by the Workgroup, as detailed above and below.

Does the P448 Proposed Modification better facilitate the Applicable BSC Objectives than the P448 Alternative?		
Obj	Proposed Modification	Alternative Modification ¹²
(a)	<p>Positive (Proposer) – facilitate affected generators continuing to participate in the market</p> <p>Positive (majority) - per the Proposer</p>	<p>Positive (majority) - as per Proposer</p> <p>Neutral (minority) - no impact</p> <p>Negative (minority) – large amount of uncertainty</p>

¹² Shows the different views expressed by the other Workgroup members – not all members necessarily agree with all of these views.

	<p>Neutral (minority) - no impact</p> <p>Negative (minority) – uncertainty and no indication this will change market behaviour</p>	
(b)	<p>Positive (Proposer) – allows affected plant to be available to NETSO after NGSE</p> <p>Positive (majority) – as per Proposer</p> <p>Neutral (minority) - no impact</p> <p>Negative (minority) – not applicable to all gas generators</p>	<p>Positive (majority) - as per Proposer</p> <p>Negative/Neutral (equal split) - no impact and large amount of uncertainty</p>
(c)	<p>Positive (Proposer) – promotes liquidity in markets in timescales up to real time</p> <p>Negative (majority) - doesn't treat all parties equitably</p> <p>Positive (minority) – overall positive impact to competition outweighs concerns that solution does not apply to all gas generators</p> <p>Neutral (minority) – no impact</p>	<p>Positive (majority) – protects more parties thus, promoting competition and avoids discrimination</p> <p>Neutral (minority) - no impact</p> <p>Negative (minority) – large amount of uncertainty and discriminates against those who do not have firm capacity</p>
(d)	<p>Neutral (Proposer) - no impact</p> <p>Neutral/Negative (equal split) – any benefits cancelled out by additional complexity</p>	<p>Neutral (majority) – introduces complexity and increase administrative activities but this is needed to address the issues P448 seeks top address, so overall neutral</p> <p>Negative (minority) – new provisions are less efficient than baseline</p>
(e)	<p>Neutral (Proposer) – no impact</p> <p>Neutral (unanimous) - no impact</p>	<p>Neutral (unanimous) - no impact</p>
(f)	<p>Negative (Proposer) – potential workaround within the CM process is required</p> <p>Negative (majority) - Per the Proposer</p> <p>Neutral (minority) - no impact and absent this Modification, the impact to the CM could be greater than the potential workaround required, so overall neutral</p>	<p>Negative (majority) – as per Proposer</p> <p>Neutral (minority) - no impact and absent this Modification, the impact to the CM could be greater than the potential workaround required, so overall neutral</p>
(g)	<p>Neutral (Proposer) - no impact</p> <p>Neutral (unanimous) - no impact</p>	<p>Neutral (unanimous) – no impact</p>

The P448 Proposed Modification

The Proposer and the Workgroup believe the Proposed Modification is better than the baseline. The Proposer believes it better facilitates Objectives (a), (b) and (c) and is detrimental against Objective (f). However, he believes the detrimental impacts on (f) are outweighed by the positive impacts from Objectives (a), (b) and (c).

The majority of the Workgroup believe it better facilitates Objectives (a) and (b), but detrimental against Objective (c) and (f). However, overall they believe the benefits of Objectives (a) and (b) outweigh any detrimental impacts from (c) and (f).

Objective (a)

The Proposer believes that P448 enables generators affected by a NGSE to continue to participate in the market, creating system stability. Therefore, P448 better facilitates Applicable BSC Objective (a) in respect of the NETSO's obligations relating to system balancing, with associated benefits around the security of electricity supply. The majority of the Workgroup agree with these arguments.

Objective (b)

The Proposer believes that it facilitates (b), as it will allow the NETSO to operate the System more efficiently, economically and in a coordinated manner, as it ensures that gas plants that are subject to a NGSE is available during and after a NGSE event. The majority of the Workgroup agree with these arguments.

Objective (c)

The Proposers believes that P448 promotes market liquidity in traded markets in timescales running up to real time, thus, promotes effective competition. However, the majority of the Workgroup believe the Proposed solution has a detrimental impact on competition as it protects only large gas-fired parties and does not treat all parties affected by a NGSE equitably

The minority who felt it was positive against Objective (c) noted that it was better to protect some parties than leave all parties at risk, in the absence of this Modification.

Objective (d)

The Proposer and half the Workgroup believe P448 has a neutral impact on Objective (d). Of these, some believe it has no impact, whilst other believe the additional complexity P448 introduces is necessary, so cancels out any detrimental impacts caused by the additional complexity. The other half of the Workgroup believe the additional complexity is detrimental against Objective (d). However, members with this view, all believed the positive impacts on Objectives (a) and (b) outweighed any detrimental impacts.

Objective (f)

The majority of the Workgroup believed that the solution was detrimental to Applicable BSC Objective (f), as described above. However, they noted that the overall positive impact on Objectives (a) and (b) outweighs the negative impact on objective (f).

The P448 Alternative Modification

The Workgroup believe the Alternative solution is better than the current baseline. The Majority of the Workgroup believed the Alternative Solution better facilitated Applicable BSC Objectives (a) and (b) for the reasons given by the Proposer under the Proposed. In regards to Objective (c), the majority of the members felt it was positive; given it offers protection to a wider scope of generators that would not have been protected by the Proposed. Also, the Alternative seeks to treat all affected parties equitably. The majority of the Workgroup believed the Alternative was neutral against Objective (d) as any benefits were outweighed by the additional complexity. The majority of the Workgroup members believed the Alternative solution was also detrimental to the Applicable BSC Objective (f), for the same reasons under the Proposed. However, they believed that any detriments against (f) were outweighed by the positives from the other impacted Objectives.

Proposed Modification versus Alternative Modification

The majority of the Workgroup believe the Alternative is better than the Proposed as it better facilitates Objective (c), compared to the Proposed. They believe the Alternative is better for competition than the Proposed as it offers protection to a wider scope of generators that would not have been protected by the Proposed. In addition, the Alternative seeks to treat all affected parties equitably.

The Proposer believed their solution was better than the Alternative. The Proposed raised P448 with a clearly defined scope that aims to address where the largest risk to the market exists i.e. large gas generators. Where the Alternative extends the provisions of P448 to a broader range of gas-fuelled generators, it adds complexity to the process, which may not be proportionate to where the anticipated risk will be.

12 Panel's Final Discussions

Elexon presented the Urgent Draft Modification Report to the BSC Panel at an urgent meeting on Friday 18 November 2022.

One member questioned whether P448 could be considered discriminatory, noting that there are other emergency scenarios that could prevent plant from generating. They posed the question as to why it should be introduced for gas and not other scenarios or fuel types. For example, why nuclear shouldn't also be protected for having to shut down for safety, caused by flooding. Another Panel Member suggested that it was appropriate due to the specific nature of procurement and delivery of gas, noting that in the event of a gas supply emergency priority is given to maintaining domestic supplies. Gas fuelled power stations are likely to be the first types of site subject to Load Shedding due to their high gas consumption. Under a Stage 2 NGSE there is no compensation available at all to gas plant. Gas, unlike other fuel types, can be curtailed in response to a national emergency.

One member stated that there is a wider industry discussion about how parties that are exposed to a broader range of force majeure type events could be better protected. They believed there was a case to consider wider scenarios outside of gas emergencies. However, the electricity market is so reliant on gas that gas curtailment would have a significant negative impact and P448 is a reasonable attempt to manage this risk. Another member added that he agreed P448 is a magnitude different to other possible 'spill over' considerations for other types of generation and scenarios.

Elexon explained that there are existing contingency arrangements in the BSC relating to fuel security and civil emergencies. It was noted that the existing contingency provisions would not extend to a gas supply emergency, hence the case for raising P448.

One Panel member noted some governance learnings from the Urgent Modification process, highlighting a lack of clarity in the gas arrangements and the desire to raise more than one Alternative during the Workgroup process.

Another member commented on the scale of activity necessary to ensure the right skills and experience were sourced to complete the validation process, when an emergency event occurs. Panel may need to establish the new committee even in the event that it is not used. The potential cost for the committee and the supporting advice and analysis in an emergency could be significant. The member noted that Elexon must take sufficient action in establishing the committee to give parties confidence it could be used in an expedient fashion in the event of an emergency. Also, the Panel may need to see alternative options for sourcing experts. Elexon noted this and confirmed that there were ongoing internal discussions to determine the sourcing strategy and this would be presented back to Panel soon.

One Panel member highlighted that the Modification introduces a two stage process, where the first stage is intended to mitigate immediate financial risks to generators by keeping them whole. Under the Alternative, some smaller parties may be reliant on the process of the new committee to resolve.

The Panel unanimously agreed that both the Proposed and Alternative Modification are better than the baseline.

The Panel unanimously agreed that the Alternative Modification is better than the Proposed Modification, and therefore that the Alternative Modification should be Approved and the Proposed Modification should be rejected.

Panel unanimously agreed that both the Proposed and Alternative Modification were positive against BSC Objective (a) and (b), for the reasons provided by the Workgroup. The majority of Panel members agreed with the Workgroup that the Proposed Modification is detrimental against BSC Objective (c), noting that the solution only applies to larger gas fired generators and could therefore introduce undue discrimination. The minority of Panel Members believed that the Proposed Modification was positive against Objective (c), as it improved competition overall in the event of a gas curtailment event. The Panel believed any detrimental impacts against Objective (c) were outweighed by the positive impacts from Objectives (a) and (b).

The Panel unanimously agreed with the Workgroup that both the Proposed and Alternative Modifications do not better facilitate Objectives (d) and (f), introducing complexity into the settlement arrangements and creating the potential need for a manual workaround to processes supporting the Capacity Market. However, the Panel believed that any detrimental impacts under Objectives (d) and (f) were outweighed by the positive impacts from Objectives (a), (b) and (c) for the Alternative solution.

The Panel unanimously agreed that both the Proposed and Alternative impact on the EBGL Article 18 terms and conditions held within the BSC and that they are both consistent with the EBGL objectives.

The legal text for BSC Sections and CSDs for both the Alternative Modification and Proposed Modification were unanimously approved by Panel members. Panel also unanimously approved the Implementation Date of 1 Working Day after Authority decision for both the Proposed and Alternative Modifications. Finally, Panel members unanimously approved the P448 Urgent Modification Report.

13 Recommendations

The BSC Panel recommends to the Authority:

- That the P448 **Alternative Modification** should be **approved** and that the P448 **Proposed Modification** should be **rejected**;
- That the P448 Proposed Modification **does** impact the EBGL Article 18 terms and conditions held within the BSC;
- That the P448 Alternative Modification **does** impact the EBGL Article 18 terms and conditions held within the BSC;
- The impacts of the P448 Proposed Modification on the EBGL objectives;
- The impacts of the P448 Alternative Modification on the EBGL objectives;
- An Implementation Date for the P448 Proposed Modification of **1WD** after Authority decision;
- An Implementation Date for the P448 Alternative Modification of **1WD** after Authority decision;
- The BSC legal text and CSDs for the P448 Proposed Modification; and
- The BSC legal text and CSDs for the P448 Alternative Modification.

Appendix 1: Workgroup Details

Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P448 Terms of Reference	Conclusion
What information would the Gas Deficit Validation Committee (GDVC) require? If the GDVC is required and what expertise are needed to justify the Committee?	The WG agreed that a new Network Gas Supply Emergency Committee should be established. The data furnished to them to aid their validation will be determined by Panel.
Do the proposed legal text changes impact on or extend the Network Code on Electricity Emergency and Restoration (NCER) provisions in the BSC?	The WG agreed that P448 does not impact on or extend the NCER provisions, as P448 does not relate to System Issues.
What communication from GSO/NEC is treated as a Network Gas Supply Emergency Acceptance?	The WG noted the GSO's summary on what data and communication is treated as a Network Gas Supply Emergency Acceptance
Interaction with Partial Shutdown and Total Shutdown arrangements	The WG noted and agreed it was clear how the P448 proposed solution interacts with Partial and Total Shutdown arrangements.
Does the solution work for power stations that are in an aggregated (Supplier or Secondary) BM Unit, rather than their own BM Unit?	The WG agreed that the proposed Solution applies to power stations in aggregated BM Units.

Urgent Modification timetable

P448 Assessment Timetable	
Event	Date
Panel submits P448 to Urgent process	29 Sept 22
Urgency letter sent to the Authority	29 Sept 22
Ofgem grants P448 urgency	30 Sept 22
Joint Workgroup meetings (Grid Code and BSC)	4 Oct 22 to 6 Oct 22
Urgent Modification Consultation	Issue by 7 Oct 22
Workgroup meeting	By 14 October 2022
Urgent Modification & EBGL Consultation (calendar month)	Issue by 14 Oct 2022 to 14 Nov 2022
Workgroup meeting	By 16 November 2022
Draft Modification Report presented to Panel	By 18 November 2022
Final Modification Report submitted to Authority	By 18 November 2022
Implementation	+1WD after Authority decision

P448
Final Modification Report

18 November 2022

Version 1.0

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Workgroup membership and attendance

P448 Workgroup Attendance							
Name	Organisation	04 Oct 22	05 Oct 22	06 Oct 22	07 Oct 22	14 Oct 22	16 Nov 22
Members							
Keren Kelly	Elexon (<i>Chair</i>)	✓	✓	✓	✓	✓	✓
Stanley Dikeocha	Elexon (<i>Lead Analyst</i>)	✓	✓	✓	✓	✓	✓
John Lucas	Elexon (<i>Design Authority</i>)	✓	✓	✓	✓	✓	✓
Colin Berry	Elexon (<i>Design Authority</i>)	✓	✓	✓	✓	✓	✓
Tina Wirth	Elexon (<i>Legal</i>)	✓	✓	✓	✓	✓	✓
Garth Graham	SSE (<i>Proposer</i>)	✓	✓	✓	✓	✓	✗
Emma Burns	Flexitricity	✓	✓	✓	✓	✗	✓
Phil Russell	Energy Consultant	✓	✓	✓	✓	✓	✓
Andrew Colley	SSE (<i>Proposer's Alternate</i>)	✓	✓	✓	✓	✓	✓
Paul Jones	Uniper	✓	✓	✓	✓	✓	✗
Lisa Waters	Waters Wye	✓	✓	✓	✓	✓	✓
Matthew Tucker	Welsh Power	✓	✓	✓	✓	✓	✓
Paul Youngman	Drax	✓	✓	✓	✓	✓	✓
Peter Frampton	VPI	✓	✓	✓	✓	✓	✓
John Costa	EDF	✓	✓	✓	✓	✓	✓
Raoul Thulin	RWE	✓	✓	✓	✓	✓	✓
Camille Gilsenan	NGESO	✓	✓	✓	✗	✓	✓
Attendees							
Luke McCartney	Ofgem	✓	✓	✓	✓	✓	✓
Milly Lewis	NGESO	✓	✓	✓	✓	✓	✓
Shazia Akhtar	NGESO	✗	✓	✓	✓	✗	✗
Ruth Roberts	NGESO	✓	✓	✓	✓	✓	✓
Damian Clough	SSE	✗	✗	✗	✗	✗	✗
Chris Kukla	BEIS (Energy and security)	✗	✗	✗	✗	✗	✗
Sarah Howarth	BEIS (Energy and security)	✓	✓	✓	✓	✓	✓
Julie Cox	Energy UK	✓	✓	✓	✓	✓	✓
Iwan Hughes	VPI	✗	✗	✗	✗	✗	✗
Karl Maryon	Drax	✓	✗	✗	✗	✗	✗

P448 Workgroup Attendance							
Name	Organisation	04 Oct 22	05 Oct 22	06 Oct 22	07 Oct 22	14 Oct 22	16 Nov 22
Lee Priestley	Conrad Energy	✓	✓	✓	✗	✗	✗
Terry Baldwin	NGESO	✗	✗	✗	✓	✗	✗
Grant Griffiths	Energy Special Interest Group	✗	✗	✗	✗	✗	✗
Gideon Miti	NGESO	✗	✗	✓	✓	✓	✗
Liang Wuxing	NGESO	✗	✓	✓	✓	✓	✗
Alexander Aristodemou	National Grid	✗	✗	✗	✗	✓	✗
Priyanka Mohapatra	Scottish Power	✗	✗	✗	✗	✓	✗
Caspar Ruane	AMP Clean energy	✗	✗	✗	✗	✓	✗
Luke Cardall	Statkraft	✗	✗	✗	✗	✓	✗
Antonio Del Castillo Zas	NGESO	✗	✗	✗	✗	✓	✓
Natalie Boahene	Statkraft	✗	✗	✗	✗	✓	✗

Appendix 2: Detailed EBGL Responses

The following tables contain the estimated effort in progressing PXXX:

EBGL Comments		
Topic	Respondent's view	Workgroup's response
EBGL Impacts	If implemented the modification would provide a different set of imbalance arrangements and relief for one class of generation user when their fuel use has been legally restricted. This would alter the terms and conditions in Article 18 6 (c) (d) and (f) as a minimum although other articles may be impacted as well.	The Workgroup noted this point but believed that the solution was not unduly discriminatory, and that it could still be considered consistent with the EBGL Article 18 terms and conditions.
EBGL Impacts	The purpose of the modification is to introduce a level of discrimination in the treatment of imbalance charges that may detrimentally impact on objective (a) fostering effective competition, non-discrimination and transparency in balancing market	The Workgroup noted this point but believed that the solution was not unduly discriminatory, highlighting only gas generators would be subject to gas curtailment. The overall impact of the Modification would be to improve competition and so the Workgroup did not believe the negative impact was a legitimate concern.
Complexity of Process	The settlement process will be quite difficult after a GDE under this mod. FGG would therefore recommend that the BSC Panel agrees some guidance on how the claims process will work if this mod is implemented.	Guidance will be considered as part of the post implementation review of P448, subject to Authority approval. Further detail on the proposed process was also captured in BSCP18 following feedback received from the first consultation.
Complexity of Process	The settlement process looks rather long and difficult after an NGSE under this mod. Parties may be helped if the BSC Panel could issue some guidance on how the claims process will work if this Mod is implemented. However, further guidance on evidence used in the claims process could be developed in line with the progression of Modification.	Guidance will be considered as part of the post implementation review of P448, subject to Authority approval. Further detail on the proposed process was also captured in BSCP18 following feedback received from the first consultation.

EBGL Comments		
Topic	Respondent's view	Workgroup's response
	<p>We recommend that once P448 is approved, a clear operational guide should be issued to generators so that they are clear of the correct steps to take in a gas emergency, including eg. contact details for notifying the ESO and Elexon that they have been subject to a load shedding instruction and the records that may need to be provided to the NGSESVC.</p> <p>It would be extremely helpful to have a separate guide for this modification, should Options 1 and 2 be progressed, that explains its implications for smaller actors who may be license exempt and merely import/export from their CHP as a secondary business activity. High imbalance charges could be catastrophic for such actors who are not dedicated electricity market participants and they should have access to a simplified version of both how they are protected and what is expected from them under P448.</p>	
Additional GSO actions outside of an NGSE Stage 2+ event	VPI remain concerned about the lack of provision in P448 for scenarios where CCGTs are not able to generate because of pre-emptive actions taken by the GSO, in particular where Exit Capacity is not released for generators to book. This lack of provision results in a potential competitive distortion, whereby generators who are booking capacity on a daily basis (in line with the intent of UNC678) are not afforded the same level of protection as generators who are not. However, absent these provisions, we believe that P448 is still better against the baseline on the basis of the protections it provides to generators in receipt of a Load Shedding instruction.	The Workgroup noted this was discussed previously and voted to be out of scope of the Alternative. Despite correspondence with the GSO in recent weeks, there was still a lack of transparency around the appropriate gas market provisions and commercial arrangements in place during Stage 1 of an NGSE. The Workgroup therefore determined additional GSO actions outside of Load Shedding at NGSE at Stage 2+ should not be included within the Proposed or Alternative solutions.

EBGL Comments		
Topic	Respondent's view	Workgroup's response
	<p>We are supportive that the proposed modification better facilitates the BSC objectives. The modification is further enhanced by the Alternative Modification proposals plus we also believe the modification needs to be extended to assets with gas exit capacity procured closer to real time such as Day Ahead.</p>	
	<p>The original Proposed Modification does not cover generators that are not active in the BM, and generators will not be able to enter into the BM in time for this Winter. Further it provides protection only to generators that have firm capacity booked, with the last annual auction taking place in July. For these reasons the Modification is discriminatory, conferring an unfair competitive advantage on larger generators and those that procure longer term gas capacity. Therefore it scores poorly against BSC Applicable Objective (c).</p> <p>Because the Proposed Modification does not protect all generators it therefore does not protect the electricity system and therefore also scores poorly against BSC Applicable Objective (b). The Proposed Modification does not provide any advantages in respect of Applicable BSC Objective (a), and scores neutral on the other BSC Objectives.</p>	

EBGL Comments

Topic	Respondent's view	Workgroup's response
	<p>Option 2 widens the effect of the modification to include the suspension of capacity as opposed to just load-shedding thereby encompassing more generators, as is the intention behind the modification. As currently drafted, only generators who have booked Annual Firm Exit Capacity or who hold Enduring Capacity will be covered whereas those who have booked daily capacity are at greater risk of the suspension of daily firm capacity auctions and more exposed to insolvency as a result.</p> <p>Both the insolvency issue and risks to competition could prove equally damaging to electricity markets and participants' faith in them, thereby exacerbating issues being faced this winter as opposed to alleviating them. Furthermore, the risk to non-dedicated electricity market participants who may use CHPs as a secondary source of income is extremely acute since they would face both production losses in a curtailment scenario and could then be exposed to massive imbalance charges.</p>	
	<p>We believe that gas generators who rely on Day Ahead Firm Exit Capacity should be given the same protection as those who have procured enduring or Annual Firm Capacity. If the P448 cover is not extended in this way, it could lead to generators becoming insolvent and putting further pressure on the industry.</p>	

EBGL Comments		
Topic	Respondent's view	Workgroup's response
	<p>Forsa see no reason why either the Proposed or Alternative Modification should be limited to a Stage 2+ Network Gas Supply Emergency. Whilst this is the only type of emergency situation which could impact gas transmission connected plant; there are other credible scenarios which could impact gas distribution connected generators since the safety case for GDNOs puts an obligation on them to act to protect vulnerable customers in their network area. This applies to actual or anticipated Gas Supply Emergencies which includes those caused by a deficit in supply to meet forecast demand on the GDNO network. The judgement of this and obligation to act is with the GDNOs. This GDNO decision is not subordinated to a declaration of a Stage 2+ Network Gas Supply Emergency by the TSO.</p> <p>We would therefore suggest that the "Stage 2+" wording is removed from the final format of the modification; whilst excluding actions taken on any generator under intermittent supply or gas margins provider</p>	
OM Contracts	<p>OFGEM should provide guidance as to how the operation of an OM Contract will work alongside a Load Shedding instruction to ensure operational and commercial clarity for gas generators under the different scenarios. It is essential to ensure a common understanding across the market.</p>	<p>OM Contracts are suggested as one of the elements to be picked up in the P448 post implementation review, subject to Authority approval.</p>

EBGL Comments		
Topic	Respondent's view	Workgroup's response
Capacity Market Interactions	<p>We understand that BEIS is considering how a Gas Emergency will interact with a Capacity Market System Stress Event (SSE). Clarity should be provided as soon as possible to ensure the market understands how the different instructions will interact during a gas emergency. We believe that this should include NGESO confirming whether the SSE is taking place in real time rather than up to 2 days afterwards.</p>	<p>BEIS has now confirmed that deemed BOAs under P448 would not be considered as an instruction from the System Operator, so there is no impact on the CM Rules. BEIS are considering how best to communicate this to participants within the CM.</p>
	<p>However, it is imperative that BEIS ensure that CM contracts are not perversely affected by the exceptions provided under the P448 solution. This clarification ought to be provided prior to P448 being implemented.</p>	
	<p>The treatment of the BOAs in the CM calculations. Again it is vital all CMUs are treated the same and we would like to see BEIS clarify the CM Rules if they do or do not want the BOA to a gas plant in a GDE to impact the CM obligation of a plant.</p>	
	<p>The treatment of BOAs in CM calculations is yet to be addressed. Forsa have not yet seen any engagement from BEIS on this, and we believe that in order for all CMUs to be treated equally, BEIS should clarify its intentions about gas plant capacity market obligations in a GDE.</p>	
	<p>NGESO has considered the impact on the Capacity Market. Further work may be required with the Delivery Body and the Settlement Body to ensure CM providers are clear on their obligations.</p>	

EBGL Comments		
Topic	Respondent's view	Workgroup's response
Capacity Market Interactions	<p>P448 only provides partial protection to generators from Capacity Market penalties as bids would only be accepted in relation to the energy volume that had been contracted at the start of the NGSE. Any uncontracted volume might be sterilised for the remainder of an NGSE and generators could still incur Capacity Market penalties on this volume. We therefore consider that a further change to the Capacity Market Rules is required to provide protection for this sterilised capacity.</p>	<p>BEIS has now confirmed that deemed BOAs under P448 would not be considered as an instruction from the System Operator, so there is no impact on the CM Rules. BEIS are considering how best to communicate this to participants within the CM. Any CM Rules change would need to be raised through the CM Advisory Group.</p>
Legal text reference to imbalance price	<p>FGG has a concern that the wording around imbalance charges for smaller embedded plant refers back to the imbalance price. However, under some contracts the generators may pay more than the cash-out prices or price not related to cash-out. We would therefore rather it referred to imbalance penalties.</p> <p>In the course of any claims process, the generator would have to show the terms of their contracts and the imbalance charges that they were subject to. We do not therefore believe that there is any risk of gaming. The wording should have greater flexibility to ensure that all penalties are covered.</p>	<p>The Workgroup discussed whether P448 Alternative should be extended to cover agreements where the non-delivery price was not equal to System Buy Price, but was on average higher than System Buy Price. The Workgroup agreed that this was appropriate, and that paragraph G6.1.4(b) of the Alternative legal text has been updated accordingly.</p>
	<p>The text refers to "imbalance charges" but it should be made clear that these may not necessarily be equal to the cashout price, as these would depend on the supplier/route to market relationship for a non-lead party.</p>	

EBGL Comments		
Topic	Respondent's view	Workgroup's response
Co-located generation	It is not clear how onsite generation (e.g. CHP) would have their expected delivery to onsite demand calculated; given that they may have a firm requirement to provide (e.g.) up to 20MW every day, but would not know the actual customer demand profile until day ahead. The legal text refers to firm, active energy; but in reality these sites would be providing generation capacity to their customers to use as and when they request, and their contracts may be written in a way which makes it difficult to interpret. We would therefore suggest that the modification makes reference to any firm agreement to provide active energy or power/capacity.	The Workgroup discussed the matter as one of the points of clarification from the Workgroup 5 meeting. The Workgroup agreed that a change should be made to the Alternative legal text. This ensures that gas-fired generators who were co-located with demand (and therefore did not Export to the Total System) were not prevented from accessing the P448 solution.
Non-BSC Matters	We note that there were concerns that in a GDE the Gas SO did not obviously have to inform the whole market, just the shippers. This is unacceptable given the connectivity of the markets.	This is a matter for the gas market.
Non-BSC Matters	There also seemed to be an issue around the treatment of gas plant buying daily firm gas capacity. Ofgem should clarify if these plants need to be added to these arrangements, or if they in fact would have the right to flow gas upto a GDE being declared.	This is a matter for the gas market.
Non-BSC Matters	the plant providing OM gas also needed their treatment clarified. The whole market needs to know when plant is being shut off, or having flows reduced, due to a GDE instruction rather than anything else.	This is a matter for the gas market, although interactions with OM Contracts will be considered as part of the P448 post implementation review, subject to Authority approval.

EBGL Comments		
Topic	Respondent's view	Workgroup's response
	<p>There are a number of tools that the gas System Operator could use to avoid declaring an NGSE but which could prevent generators from running at short notice during tight system conditions and leave them exposed to large electricity imbalance charges and credit requirement without the protection afforded by P448, eg. Operating Margins agreements or withholding daily firm gas capacity from sale.</p> <p>We consider that the gas System Operator must provide absolute clarity as to when and how it will utilise these tools, the consequences for shippers if they did not comply with them because of the commercial risks in the electricity market, and any changes that could be made to ensure the tools continue to function as intended.</p>	
Time limiting P448 provisions	Ofgem could also consider if it would be appropriate to limit provisions to this winter only given the increased risk of a Gas Supply emergency is driven by the war in Ukraine and resultant gas shortages.	The Workgroup discussed this was now outside of the scope of the P448 Proposed and Alternative. It was noted that a Modification could be raised, if P448 was approved, that would time-limit the solution.
Post implementation review	We agree with the implementation approach but believe that post implementation there needs to be a review to ensure there are no unintended consequences as the process has been very rushed. As noted by the working group this might include a review of whether the imbalance price should be based on the shorter position implied by the gas plant being curtailed, rather than in the absence of gas curtailment.	Noted by the Workgroup and a review of impacts to cash out is planned to be part of the post implementation review

EBGL Comments		
Topic	Respondent's view	Workgroup's response
Post implementation review	We do recognise that there is a potential need to review cash-out arrangements so that any consequences arising from P448 are considered and dealt with appropriately.	Noted by the Workgroup and a review of impacts to cash out is planned to be part of the post implementation review
Post implementation review	Further BSC modifications may be required to mitigate the risks to generators. For example, in the case of Operating Margins agreements we do not consider that it would be appropriate for generators to post additional credit under the BSC where they have been interrupted because of an Operating Margins agreement because they will likely be reimbursed for any imbalance charges by the gas SO.	This could be added to the Terms of Reference for the post implementation review, if deemed appropriate by the BSC Panel. Alternatively, a BSC Modification could be raised as a separate matter.
Post implementation review	We appreciate the intent of this modification and recognise the time pressure in getting it in place for this winter. It is likely to be a process which will need further review post implementation and we recommend there is a mechanism to allow this in addition to a review should there be a Load Shedding instruction.	A post implementation review is planned, subject to Authority approval of the Modification. The suggestion to conduct a review should the processes introduced by P448 be triggered will be fed into this initial review.
Post implementation review	While P448 impacts some sections of the BSC identified as relevant to EBGL, the processes introduced do not change the ESO's actions in the BM and as such we do not see any impact on the EBGL objectives. We do recognise that there is a potential need to review cash-out arrangements so that any consequences arising from P448 are considered and dealt with appropriately.	The Workgroup considered the view and concluded that cash-out arrangement will be addressed in the post-implementation review.

EBGL Comments		
Topic	Respondent's view	Workgroup's response
System Buy Price (Question 9)	<p>All market participants use SBP as standard, whereas other arrangements are likely to be private commercial arrangements and therefore should be considered separately. We do not consider this requirement to be too strict, as those parties are not exposed to the same risk but receive the same protection.</p>	<p>The position consulted on was that the generator's intended generation (at the point the Load Shedding instruction was received) should be protected from Imbalance Charges if either:</p> <ol style="list-style-type: none"> 1. The Lead Party had reflected that position in their Energy Contract Volume Notifications (ECVNs); and/or 2. The generator was required to pay the Lead Party for non-delivery of that volume at the System Buy Price. <p>The Workgroup agreed that the intention of point (2) is that the Lead Party should not levy a charge for non-delivery on the generator, where the Supplier was protected from Imbalance Charges by P448. The Workgroup noted that the Modification itself could not require this, as it was a contractual matter between generator and Lead Party.</p> <p>The Workgroup discussed whether P448 Alternative should be extended to cover agreements where the non-delivery price was not equal to System Buy Price, but was on average higher than System Buy Price. The Workgroup agreed that this was appropriate, and that paragraph G6.1.4(b) of the Alternative legal text would be updated accordingly.</p>
	<p>The purpose of P448 is to protect generators from the full exposure to cash-out arising from gas interruptions during a gas emergency. In the circumstance that a party is not exposed to the full impact of cash-out, it may be appropriate for the committee assessing the bid volume and price to make an adjustment to reflect the actual exposure of the party that has been interrupted. It would not, for example, be appropriate for a generator to be credited with volume through a bid acceptance that then results in that generator benefitting beyond their actual imbalance exposure. Nor would it be appropriate for a supplier that had not adjusted its position in the expectation of a generator's output to be compensated for the 'loss' of generation that would otherwise have been 'spilled'.</p>	

EBGL Comments

Topic	Respondent's view	Workgroup's response
	<p>As noted above, the FGG believes that the imbalance penalties in a gas generators contract should be covered. We would accept that this should be up to the imbalance price, but note that not all contracts refer to the exact imbalance within the settlement period as the penalty, but these parties should be held whole to the same degree that gas BMUs are.</p> <p>We would fully expect the claims process to check the contracts and the imbalance charges that the relevant generators were exposed to in the stage 2 GDE. We would therefore like to see the text refer to a "predefined non-delivery charge".</p> <p>The contracts FGG hold do all have non-delivery charges related to the SBP, but not all are directly the SBP in that period, for example some are SBP + x%, being higher than the SBP. We believe this wording would achieve the intent of the mod while recognising the unique nature of some contracts between Suppliers and embedded generators.</p> <p>As discussed in Question 4; we can see no reason why the mod should be prescriptive here when it could just refer to imbalance penalties, with a cap at the SBP for that period. Parties will have different agreements with their suppliers/customers which may not see full exposure to SBP.</p> <p>We are not supportive of the alternative but if it were introduced, any evidence of firm contracted energy made prior to the curtailment for the curtailed days should be submissible. We would not want to fetter the committee's discretion as to the evidence required.</p>	

EBGL Comments		
Topic	Respondent's view	Workgroup's response
	<p>The Modification is justified on the basis of potential extremely high costs faced by generators in the event of non-delivery due to the actions of the GSO meaning they cannot deliver the power they were contracted to deliver, at a time where those actions mean the consequences of non-delivery are particularly high. Without a penalty for non-delivery, the justification for applying the P448 solution falls away.</p> <p>There should some requirement to demonstrate that the level of penalty is commensurate with that faced by a generator with ECVNs.</p> <p>We would expect all generators to be exposed to at least 100% of SBP under their contractual arrangements and so believe that the requirements listed above are appropriate.</p> <p>The SBP rationale seems sound as this is the price that the supplier would be exposed to on any imbalances. Therefore, the generator being exposed to the same would indicate that it has a firm obligation to deliver.</p> <p>Yes – this is too strict as some contracts may not expose generators to the full System Buy Price, and it would not be possible to change contracts at this stage. The Modification should not be prescriptive and instead the Network Gas Supply Emergency Settlement Validation Data Committee (NGSESVDC) should decide whether the contract price is appropriate, supported by principles.</p>	

EBGL Comments		
Topic	Respondent's view	Workgroup's response
Unintended consequences	<p>There may be unintended consequences related to P448 that are either outside the scope of the modification or were not possible to discuss thoroughly in the time available. It may be appropriate for Ofgem to consider these in its decision assessment:</p> <ul style="list-style-type: none"> • Potential impacts on the processes to issue system warnings where these have an interaction with physical notifications, including capacity market notifications. • Any negative impact on the GSO's ability to use commercial tools to avert a potential or actual NGSE developing. • As gas generators will not face an electricity imbalance from a GDE they may not be incentivised to reduce consumption ahead of a gas emergency or offer (gas) demand side response or locational actions. • Clear direction on the status of REMIT and market reporting requirements including the impact on central reporting services. • Ofgem's opinion on the use of notifications to reflect the ongoing 'commercial' position of a Firm Load shed generator after it has been curtailed, and not the electricity to be produced (as it would have ceased electricity production). • If utilised this winter, we would anticipate that there would be some interaction with the £250m BSUoS deferral where BSUoS is above £40/MWh. In the time available to the work group it was not possible to analyse any consequences. Therefore Ofgem may want to consider assessing the impact as part of its decision. 	<p>Relevant points will be noted to Ofgem and NGESO.</p> <p>The Workgroup did note that they believe they have considered the commercial tools available to parties and still think they are incentivised to use them rather than enter into an emergency situation.</p>

EBGL Comments		
Topic	Respondent's view	Workgroup's response
PN Submission	<p>The prohibition on being able to increase a PN above the energy volume which a BMU has contracted at the start of a load shedding instruction may prevent an affected BMU from undertaking further hedging once a load shedding instruction has been issued. Without certainty as to when an NGSE will end, a generator could not sell out further volume as, if the NGSE was extended, the generator would not be protected from imbalance charges on that volume under P448. Given that an NGSE could last for a prolonged period, this could adversely affect a generator's hedged position. We therefore consider that, if a load shedding instruction lasts longer than initially notified, generators should be able to update their PNs to reflect their new contracted position at the original expected end time.</p>	<p>The Workgroup considered this but did not believe the solution should be amended to incorporate this suggestion. The Workgroup felt that the solution should not be incentivising parties to purchase during an NGSE.</p>