

Modification proposal:	Balancing and Settlement Code (BSC) P448: Mitigating Gas Supply Emergency Risks (P448)		
Decision:	The Authority ¹ directs that the Alternative modification be made ²		
Target audience:	National Grid Electricity System Operator (NGESO), Parties to the BSC, the BSC Panel and other interested parties		
Date of publication:	06 December 2022	Implementation date:	One working day after Authority Decision

Background

If a Network Gas Supply Emergency ('NGSE') occurs, the Gas System Operator ('GSO'), in close cooperation with the Network Emergency Coordinator ('NEC'), will act in accordance with the Gas Safety Management Regulations³ to follow the procedure for a NGSE⁴. In the event that GB reaches Stage 2 in this procedure, Load Shedding of gas would be applied to the largest gas users connected to the gas system. This will likely be large gas-fired power stations which produce significant volumes of electricity to the National Electricity Transmission System ('NETS').

If gas-fired power generators have their gas supply curtailed in the event of a NGSE, they will likely be exposed to imbalance charges (plus associated credit requirements) if they have sold their power ahead of time and are expected to deliver this power. These imbalance charges could be high as the Electricity System Operator ('ESO') may have to instruct other plant or demand side response in order to replace the lost power expected from the curtailed gas-fired

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

² This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

³ [A guide to the Gas Safety \(Management\) Regulations 1996. Guidance on Regulations - L80 \(hse.gov.uk\)](#)

⁴ [National Grid Gas's Procedure for Network Gas Supply Emergency document approved by the NEC \(May 2021\)](#)

generators. As a result, a Stage 2 or higher NGSE load shedding event could materially challenge the solvency of gas-fired generators and cause scarcity in the electricity market.

The modification proposal

P448 (the proposal) was raised by SSE on 28 September 2022. The following day at an urgent BSC Panel meeting, the BSC Panel requested that Ofgem treat P448 as an Urgent Modification Proposal. On 30 September 2022 we issued a decision letter⁵ to the BSC Panel granting urgency for P448. The proposer considers the proposal to facilitate objectives (a), (b) and (c) of the BSC.

The proposal sets out that Load Shedding instructions issued to gas-fired generators during a Stage 2 or higher NGSE shall be treated for BSC purposes as electricity bids. The Acceptance data relating to these bids will be constructed by the ESO after the event and then entered into Settlement.

The baseline used to calculate the bid volume is the Final Physical notification ('FPN'). The intention of the proposal is that this baseline should reflect the contractual position that the generator had entered prior to receiving a load shedding instruction. To facilitate this, Grid Code modification GC0160 was proposed to amend the Grid Code rules relating to Physical Notifications ('PNs') for BM units subject to Load Shedding during a Stage 2 or higher NGSE. The accepted bid volume will be calculated as the difference between the Acceptance Data and the FPN. The Lead Party⁶ will therefore be protected from imbalance charges on this volume.

The proposal is dependent on generators submitting accurate PNs to reflect their contracted positions at a certain point in time. To mitigate the Settlement impact of any error in this data a new Panel Committee (the Network Gas Supply Emergency Settlement Validation Data Committee ('NGSESVC')) was proposed to meet after the event to verify data used in Settlement. The NGSESVC will be able to: reduce FPNs, amend the Bid Price and/or amend the Acceptance Data.

⁵ [P448 - Decision on Urgency | Ofgem](#)

⁶ As defined in the BSC Lead Party means, in relation to a BM Unit, the Party registered or to be registered in respect of the BM Unit pursuant to [Section K3](#) and [K8](#);

The proposal only allows contractual positions notified by Energy Contract Volume Notifications ('ECVN') to be covered and also only applies to generators who Export to the Total System.

The P448 workgroup developed an Alternative Modification ('the alternative') for P448. The alternative retained all the key aspects of the proposal, but it provided the NGSESVC with additional powers to extend the protection provided by the P448 solution to a broader range of gas-fired generators. The alternative permits the NGSESVC to create FPNs, Acceptance Data or Bid-Offer data if such data does not already exist in Settlement. Whilst it also allows the NGSESVC to increase FPN data as well as reduce it.

The alternative also provides another mechanism for demonstrating that a firm contractual position was agreed prior to Load Shedding. This allows an agreement between a Lead Party and a generator (i.e. via a power purchase agreement (PPA)) to be taken as evidence of a contracted position, provided that the contract includes provisions for the generator to be charged for non-delivery, at a price which is (on average) equal to or higher than the System Buy Price.

The final difference is that the alternative permits gas-fired generators who are co-located with demand (and therefore do not Export to the Total System) access to the P448 solution.

The workgroup believed that the alternative solution will better facilitate BSC objective (c) when compared to the proposal. This is because the alternative allows a greater proportion of gas-fired generators to be covered by the P448 solution, ensuring fairer competition between gas-fired generators.

BSC Panel⁷ recommendation

At the BSC Panel meeting on 18 November 2022, the BSC Panel unanimously agreed that both the proposal and alternative would better facilitate the BSC objectives than the baseline. They unanimously agreed that the proposal and alternative better facilitate objectives (a) and (b).

⁷ The BSC Panel is established and constituted pursuant to and in accordance with Section B of the BSC and [Standard Special Licence Condition C3 of the Electricity Transmission Licence](#).

Half of the BSC panel agreed that the proposal was detrimental to objective (c), and they unanimously agreed that the alternative would better facilitate objective (c) due to the alternative including a broader scope of generators. The BSC Panel unanimously agreed that both the proposal and alternative do not better facilitate Objectives (d) and (f) as this introduces complex settlement arrangements and the need for a potential manual workaround to processes supporting the Capacity Market. However, the BSC Panel believed that the detrimental impacts under Objectives (d) and (f) are outweighed by the positive impacts from Objectives (a), (b) and (c) for the alternative.

Overall, the BSC Panel unanimously agreed that the P448 Alternative Modification is better than the P448 Proposal and therefore recommended the alternative to the Authority.

Our decision

We have considered the issues raised by the modification proposal and the Final Modification Report (FMR) dated 18 November 2022. We have considered and taken into account the responses to the industry consultation on the modification which are included in the Final Report⁸. We have concluded that:

- implementation of the Alternative Modification proposal would better facilitate the achievement of the applicable objectives of the BSC;⁹ and
- directing the implementation of P448 Alternative Modification is consistent with our principal objective and statutory duties.¹⁰

Reasons for our decision

Although both the proposal and alternative better facilitate BSC objectives (a) and (b), we consider the alternative to better facilitate BSC objective (c) and the proposal to be detrimental against BSC objective (c). We also consider that both the proposal and alternative could have a modest negative impact to BSC objectives (d) and (f). We believe that both the

⁸ [P448 'Mitigating Gas Supply Emergency Risks' - Elexon BSC](#)

⁹ As set out in [Standard Condition C3\(3\) of the Electricity Transmission Licence](#).

¹⁰ The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Electricity Act 1989.

proposal and alternative are better than the baseline, but the alternative will have a greater positive impact overall on the BSC objectives given that it better facilitates objective (c). We also consider that both the proposal and alternative have a neutral impact on the other applicable BSC objectives (e) and (g).

(a) the efficient discharge by the licensee of obligations imposed upon it by this licence and (b) the efficient, economic and co-ordinated operation of the national electricity transmission system

We agree with the P448 workgroup and the BSC Panel that the alternative will better facilitate BSC Objective (a) and (b). This is because if P448 was not implemented there would be a risk that gas-fired generators could be faced with insolvency if a Load Shedding event were to occur. This could create issues in the electricity system after a Load Shedding event if the unavailability of gas-fired generators caused the ESO difficulties in meeting its licence obligations to operate the electricity system in an efficient, co-ordinated and economic manner.

We also agree that P448 will reduce risk and limit the incentive for gas-fired generators to reduce electricity trading if they believe a Stage 2 or higher NGSE will occur. This should result in the ESO being able to balance the NETS in a more efficient, co-ordinated and economic manner and potentially improve liquidity and competition in traded electricity markets.

(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

It is the proposer's view that the proposal better facilitates BSC Objective (c) as it will promote liquidity in traded markets in timescales running up to real time and thus promotes effective competition. The alternative does this and aims to widen the scope of gas-fired generators who can benefit from the modification.

It is the workgroup's view by majority and the BSC Panel's unanimous view that the alternative better facilitates objective (c) through encompassing a wider scope of gas-fired generators compared to the proposal.

This is due to the proposal only providing protection to gas-fired generators who actively participate in the BM. This could lead to a detrimental impact on competition as it could alleviate risk for only a select subset of gas-fired generators. Due to the way Load Shedding should be enacted during a Stage 2 or higher NGSE it is expected that these large gas-fired generators will be impacted the most. However, there remains a risk that smaller gas-fired generators could be affected by a Stage 2 or higher NGSE Load Shedding event and thus would be put at a disadvantage by the proposal as they were required to pay imbalance charges after being given a Load Shedding instruction during a Stage 2 or higher NGSE.

We agree with the views of the majority of the workgroup and the BSC Panel that there should be a wider scope of gas-fired generators being protected from imbalance charges if they have been issued a Load Shedding instruction during a Stage 2 or higher NGSE. This is because it should create greater levels of competition than the proposal as there will be no difference in risk between gas-fired generators who actively participate in the BM and those who do not. Therefore, we believe that the alternative better facilitates objective (c).

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

The Proposer and half the workgroup believed that P448 has a neutral impact on BSC objective (d) due to their being no impact or that benefits to (d) are cancelled out by the complexity P448 introduces. The other half of the workgroup and the BSC Panel's unanimous view was that both the proposal and alternative have a negative impact on BSC objective (d) as they both introduce complexity into settlement arrangements as a result of the creation of a new process and the NGSESVC.

We agree with the BSC Panel that both the proposal and alternative will increase complexity in Settlement arrangements through additional manual processing. Therefore, we believe P448 has a negative impact on BSC objective (d). However, these complex processes are required to achieve the benefits to objectives (a) and (b).

We also believe that the alternative has a slightly greater negative impact on BSC objective (d) than the proposal given the greater remit of the NGSESVC under the alternative. This could lead to more inefficiencies with the Settlement arrangements. Nevertheless, we believe that the competition benefits the alternative gives to objective (c), as set out above, outweigh the slightly more complex settlement arrangements.

Due to urgent status of P448, timescales were constrained for the workgroup to develop the modification. As such, the workgroup was unable to fully review all possible interactions between P448 and the cash-out arrangements. P448 uses Bids to protect generators from imbalance charges and these bids will potentially feed into the imbalance price calculation. This is likely to reduce the imbalance price and thus it could potentially weaken the cash-out price signal if a stage 2 NGSE Load Shedding event was to occur. Consequently, we believe that this contributes to a negative impact on BSC objective (d). **We urge Elexon to raise a BSC Issue to further consider the interactions between P448 and cash-out.**

(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

We noted the Workgroup's majority view and the BSC Panel's unanimous view that both the proposal and alternative have a negative impact on objective (f). This is because P448 has the potential to require a manual workaround within the Capacity Market processes.

BEIS confirmed that the deemed Bid-Offer Acceptances under P448 would not be considered as an instruction from the ESO and therefore there is no impact on the CM Rules. As a result, bid volumes associated with a Stage 2 or higher NGSE Load Shedding instruction should not be taken into account when the ESO determines a system stress event or by Electricity Market Reform Settlement (EMRS) when determining reductions to Capacity Providers' obligations. Therefore the bid volumes associated with a Stage 2 or higher NGSE would need to be removed via a manual process.

As a result we agree with the workgroup that P448 would have a negative impact on objective (f). However we believe that the benefits with BSC objectives (a) and (b) for the proposal and BSC Objectives (a), (b) and (c) for the alternative outweigh these negative impacts.

We are supporting BEIS with providing further clarifications for Capacity Providers on the interactions between P448 and the Capacity Market.

Other considerations

Given the urgency of this modification, assessment timelines were tight, and the workgroup was unable to consider all possible impacts P448 could have on both the electricity and gas systems. As mentioned above, we encourage Elexon to raise a BSC Issue. This Issue group should further consider the wider consequences (intended and unintended) of implementing P448 and any potential issues that could not be considered fully by the workgroup. We have already noted our expectation that interactions with the cash-out price calculation should be further considered. Other potential areas for consideration could include: whether additional guidance to industry is required on the P448 arrangements; the longevity of this Modification; and interactions between P448 and gas market/system operation arrangements.

Decision notice

In accordance with Standard Condition C3 of the Transmission Licence, the Authority hereby directs that modification proposal BSC P448 Alternative: *Mitigating Gas Supply Emergency Risks* be made.

Grendon Thompson

Head of Wholesale Markets Management – Energy Systems Management and Security

Signed on behalf of the Authority and authorised for that purpose