

Modification proposal:	Grid Code (GC) GC0160: Grid Code Changes for BSC Mod P448: "Protecting Generators subject to Firm Load Shedding during a Gas Supply Emergency from excessive Imbalance Charges" (GC0160)		
Decision:	The Authority ¹ directs ² that the proposed modification to the Grid Code be made		
Target audience:	National Grid Electricity System Operator (NGESO), the Grid Code Review Panel, Grid Code users 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

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 \(May 2021\)](#)

could be high as the Electricity System Operator (ESO) would have to instruct other plant or demand side response in order to replace the lost power expected from the curtailed gas-fired 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

GC0160 was raised by SSE (the proposer) on 28 September 2022 in order to ensure consistency with the BSC modification P448⁵ that proposes to protect gas-fired generators from high imbalance charges. This will be done by allowing load shedding instructions at stage 2 or higher in a NGSE to be settled as electricity bids. As a result the proposed BSC modification requires modifications to the Grid Code.

GC0160 proposes to change the definition of a Physical Notification (PN), so that if a generator has been issued a load shedding instruction during a Stage 2 or higher NGSE, they shall submit PNs that reflect the expected output of the unit that represents their forward contracted power position at the time they were load shed. The generator must also take into consideration any mitigating actions they have made in order to try and reduce their power position in a Stage 2 NGSE.

We received a request from the Grid Code Review Panel Chair on 29 September 2022 that GC0160 be treated as an Urgent Modification, which we accepted on 30 September 2022⁶.

A workgroup consultation was issued from 7 October to 12 October 2022. Several consultation responses highlighted that the workgroup had not fully discussed the impacts of changing the definition of the PNs to the ESO's system warning notifications. An action was put on the ESO to make sure the changes made by GC0160 would not impact system processes as a result. Subsequently, the ESO noted that the PN is not decisive within processes for issuing a system warning and therefore the workgroup were comfortable to proceed with the original proposal. The ESO also committed to undertake actions to be carried out post implementation. This is discussed further below under the heading '*Reasons for our decision*'.

⁵ [P448 'Mitigating Gas Supply Emergency Risks' - Elexon BSC](#)

⁶ [GC0160 - Decision on Urgency | Ofgem](#)

A Code Administrator Consultation was issued from 18 October to 18 November 2022, receiving four responses. All four responses (one of which was the proposer) were in support of the proposal. The ESO also noted in their response that in accordance with Good Industry Practice, their understanding is that generators will mitigate their losses in line with general commercial principles by using reasonable endeavours to trade out their existing contracted positions.

The proposer considers the proposal better facilitates Grid Code objectives:

- (i) by allowing the ESO to operate the NETS more efficiently, economically and in a more coordinated manner by continuing to have the affected plant available after a NGSE,
- (ii) by promoting liquidity in traded markets in timescales running up to real time, and
- (iii) by facilitating affected generators to continue participating in the market and operate for system stability purposes in light of a NGSE.

Grid Code Review Panel recommendation

The Grid Code Review Panel (the Panel) convened on the 22 November 2022. They unanimously recommended that GC0160 be implemented. However, one Panel member noted in their voting statements that, due to the time constraints of developing the urgent proposal, additional consideration should also be given to the potential cross-code impacts of the solution. We support this and have acknowledged in our P448 decision that further consideration should take place through a BSC Issue group.

Our decision

We have considered the modification proposal and the Final Modification Report dated 22 November 2022. We have considered and taken into account the responses to the industry consultation on the modification which are included in the Final Report⁷. We have concluded that:

⁷ [GC0160 Final Modification Report](#)

- implementation of the modification proposal will better facilitate the achievement of the objectives of the Grid Code;⁸ and
- approving the modification proposal is consistent with our principal objective and statutory duties.⁹

Reasons for our decision

Dependence on P448

GC0160 has been proposed due to the impacts the BSC modification P448 has on the Grid Code and the application of PNs. P448 aims to use electricity bids to protect gas-fired generators who have been load shedding in a stage 2 or higher NGSE from imbalance charges. Consequently, in such a situation, these generators must submit PNs in a different way than normal, requiring changes to the Grid Code. It follows that if the P448 solution is implemented GC0160 must also be implemented.

ESO system warnings and unintended consequences

As mentioned above, several workgroup members and respondents highlighted that changing the definition of a PN could have impacts on the ESO's system warning notifications. The ESO confirmed to the workgroup, the Panel, and the Authority that changing the definition of a PN should not have any unintended consequences for ESO system warning notifications. They noted that the PN is not decisive within processes for issuing system warning notifications. The ESO also undertook a review of all 99 references to PNs within the Grid Code and believe that there are no instances where unintended consequences from the proposal occurs. Furthermore, the ESO also plan to undertake a post-implementation control room exercise to validate that this definition change has no issues, and they will create a system operating plan (SOP) for the control room based on the P448 and GC0160 solution.

REMIT

Ofgem provided the GC0160 workgroup with clarification over how GC0160 will affect REMIT obligations. We noted that REMIT requires (among other things) that market participants do

⁸ As set out in Standard Condition C14(1)(b) of the Electricity Transmission Licence, available at: <https://epr.ofgem.gov.uk/>

⁹ The Authority's statutory duties are wider than matters which the Grid Code Panel Review must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

not disseminate information which gives, or is likely to give, false or misleading signals as to the supply of, demand for, wholesale energy products. Where a generator is submitting PNs that are in line with its obligations under the Grid Code in the event of a Gas Emergency, this would not comprise a false or misleading signal. We also want to confirm that all market participants are required to publicly disclose in an effective and timely manner inside information which they possess in respect of their business as per existing REMIT obligations. This would include if they will not be available to run due a Load Shedding instruction in a Stage 2 or higher NGSE.

Grid Code Objectives

We consider the proposal will have, on balance, a positive impact on Grid Code objectives (i), (ii) and (iii) and has a neutral impact on the other applicable objectives.

(i) to permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity

We consider the changes proposed by GC0160 are essential for the proposed BSC modification P448. The solution for P448 aims to protect gas-fired generators from high imbalance charges if they have been load shed during a Stage 2 or higher NGSE. If GC0160 was not implemented, then P448 would be unable to either. As a result, 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.

(ii) to facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity)

The existing level of risk faced by gas-fired generators in the event of a Stage 2 or higher NGSE could reduce the incentives on these parties to participate in electricity trading. Through reducing this risk, implementation of P448 and GC0160 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.

(iii) subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole

P448 and GC0160 will facilitate objective (iii) before a load shedding event as it will allow gas-fired generators to continue to operate in the market as they would without having to mitigate the risk of potential high imbalance charges if a load shedding event were to occur. This should improve liquidity and competition in traded electricity markets and therefore enable the ESO to operate the NETS more efficiently.

P448 and GC0160 will also facilitate objective (iii) after a load shedding event as it will protect affected gas-fired generators from high imbalance charges and credit cover requirements. This could potentially save these gas-fired generators from insolvency, which will promote security of electricity generation after a load shedding occurred.

Decision notice

In accordance with Standard Condition C14 of the Transmission Licence, the Authority hereby directs that Grid Code modification proposal GC0160: 'Grid Code Changes for BSC Mod P448: "Protecting Generators subject to Firm Load Shedding during a Gas Supply Emergency from excessive Imbalance Charges"' 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