BSC Modification Proposal Form	At what stage is this document in the process?

P448

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

01 Modification
02 Workgroup Report
03 Draft Modification Report
04 Final Modification Report

Purpose of Modification:

The war in Ukraine and resultant gas shortages in Europe significantly increases the risk of Generators in GB being prevented from generating this winter (due to Firm Load Shedding during a 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.

This Modification proposes to address these risks by allowing such Firm Load Shedding instructions to be settled as Bids. A new Panel Committee will validate the Bid Payments and Imbalance Charges after the event, to verify that Generators have been protected from Imbalance Charges caused by events outside their control, but have not profited from the arrangements.

Does this Modification impact any of the European Electricity Balancing Guideline (EBGL) Article 18 Terms and Conditions held within the BSC?

☒ Yes ☐ No

The Proposer recommends that this Modification should:

- be treated as urgent and progressed under a timetable agreed by the Authority
- not be a Self-Governance Modification Proposal

This Modification will be presented by the Proposer to the BSC Panel at a special meeting on 29 September 2022. The Panel will consider the Proposer's recommendation and determine how best to progress the Modification.

High Impact:

Generators, Suppliers, Trading Parties

	Medium Impact: NETSO
	Low Impact: Settlement Administration Agent, Balancing Mechanism Reporting Agent

Contents

Timetable

The Proposer recommends the following timetable:

Modification presented to Panel	29 September 2022
Submitted to Authority for decision on urgency	29 September 2022
Joint Workgroup meetings (Grid Code and BSC)	4 October 2022 to 6 October 2022
Industry Consultation	Issue by 7 October 2022 *
Modification Work Group meeting	By 14 October 2022
Urgent Modification & EBGL Consultation (calendar month)	Issue by 14 October - 14 November 2022
Modification Work Group meeting	By 16 November 2022
Draft Urgent Modification Report presented to Panel	By 18 November 2022
Final Urgent Modification Report submitted to Authority	By 18 November 2022
Implementation	+1WD after Authority decision and same day as related Grid Code Modification

Any questions?

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*The proposed Industry Consultation period is subject to the urgency decision from the Authority. For clarity, the Industry Consultation will not commence on 5 October 2022 if a decision from the Authority is not received before then.

1 Why Change?

What is the issue?

Russia's turning off of the Nord Stream 1 gas[1] 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 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.

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 stations[2] 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

[1] For the avoidance of doubt, the references in this proposal to 'gas' is to natural gas.
[2] Based on the NETSO's published Transmission Entry Capacity (TEC) Register.

(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 liquidity impacts noted above as, for example, has been seen with the Calon Energy market exit[3]. 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.

The gas system operator (GSO) is National Grid Gas. In the event of an expected shortfall in available gas (such as for the reasons noted above in terms of the Ukraine situation), 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 Network Emergency Coordinator (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.

Desired outcomes

To amend the BSC to ensure that the defect is rectified in a timely manner so that Generators are not exposed to imbalance charges and / or excessive Credit Cover charges in the event of firm (gas) load shedding being required as a result of a Stage 2 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.

[3] Calon Energy's UK gas plants put in 'dormant state' by administrators - Energy Live News
[4] A guide to the Gas Safety (Management) Regulations 1996. Guidance on Regulations - L80 (hse.gov.uk)

2 Solution

Proposed Solution

The creation, within the BSC, of a new form of emergency acceptance[5] ("Gas Deficit Emergency Acceptance"), which would be settled as a Bid for the affected units in a similar manner to those created in respect of Emergency Instructions from the NETSO.

The key difference is that the change in output from the affected generator has resulted from an instruction from the GSO or the NEC, rather than the NETSO. The bids may also need to be constructed for a longer period than just the settlement periods for which gate closure had already occurred when the interruption of the power station was instructed (by the GSO).

Therefore, affected units will need to change the way in which they submit Physical Notifications for the affected period to reflect how they would have operated the relevant units to meet their contractual position in the absence of the gas emergency.

In light of such a situation arising, it would be necessary to validate what has happened ex-post. In order to do this, it will be necessary for the affected party[6] to preserve all relevant records associated with the site(s) in question, and furnish those records to a committee established (by the Panel) along the lines of, but separate to, the current Section G Claims Committee.

This new "Gas Deficit Validation Committee" will assess the information provided in a timely manner by the relevant party, along with other information from Elexon, the NETSO and, possibly, the GSO / NEC.

It will validate whether the Trading Charges payable by (or to) the Lead Party are consistent with the principle that:

- The Lead Party should be protected from (electricity) Imbalance Charges arising from the inability to deliver (as a result of the gas curtailment) volumes of electricity they sold prior to the (gas) curtailment; and
- The Bid Payment from the Lead Party should reflect their net saving in Avoidable Costs as a result of the curtailment (but should not reflect other costs or savings, such as opportunity cost, indirect costs or profit margin)

Where the Trading Charges do not reflect these principles, the Gas Deficit Validation Committee may decide to direct changes to Settlement data relating to the Gas Deficit Emergency Acceptance (including Final Physical Notifications or Bid Prices). The Lead Party will have a right to appeal such a decision to the Authority.

Benefits

Generators will not be exposed to imbalance charges and / or additional excessive credit cover charges which result from actions taken by the GSO / NEC for a gas deficit emergency, when dealing with a gas safety matter, which are beyond their control.

Market liquidity would be expected to be maintained (at a minimum) by this change, as without it parties facing such a huge trading risk may take dramatic actions in order to minimise, where possible, their

[5] i.e. a Bid-Offer Acceptance (BOA)
[6] That is the site in question is subject to a (gas) load shedding by the GSO/NEC.

substantial risks (as illustratively quantified in the table in Section 1 above), which includes curtailing or ceasing their involvement in medium and long term electricity products in order to concentrate on near real time electricity products / markets.

Furthermore, in the event that parties focus on near real time products / markets, this is likely to lead to the NETSO having to take additional short-term measures which, absent this Modification, would be expected to be undertaken by the parties facing the risk.

Market stability will be more assured with this change, as without it those parties either voluntarily or involuntarily would have to withdraw from the forward market and going near term.

This change would also support security of electricity supply in the event of a gas deficit emergency, by reducing the risk that generators curtailed during a gas deficit emergency become insolvent and are therefore unable to continue to offer power to the market.

3 Relevant Objectives

Impact of the Modification on the Relevant Objectives:	
Relevant Objective	Identified impact
a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence	**Positive**
(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System	**Positive**
(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	**Positive**
(d) Promoting efficiency in the implementation of the balancing and settlement arrangements	Neutral
(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]	Neutral
(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	Neutral
(g) Compliance with the Transmission Losses Principle	Neutral

Applicable BSC Objectives (a)

In the view of the Proposer this Modification will better facilitate Applicable BSC 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 light of a gas supply emergency.

Applicable BSC Objectives (b)

In the view of the Proposer this Modification will better facilitate Applicable BSC Objective (b), as it will allow the NETSO to operate the NETS more efficiently, economically and in a more coordinated manner by continuing to have the affected plant available after a gas supply emergency situation.

Applicable BSC Objectives (c)

In the view of the Proposer this Modification will better facilitate Applicable BSC Objective (c), by promoting liquidity in traded markets in timescales running up to real time.

4 Potential Impacts

Impacts on Core Industry Documents

Impacted Core Industry Documents			
☐Ancillary Services Document	☐Connection and Use of System Code	☐Data Transfer Services Agreement	☐Use of Interconnector Agreement
☐Retail Energy Code	☐Transmission License	☐System Operator Transmission Owner Code	☐Supplemental Agreements
☐Distribution Code	☒Grid Code	☐ Other (please specify)	☐ None

This Modification requires a parallel change to the Grid Code to give full effect to the solution. We will coordinate this Modification with the Grid Code Modification, ensuring that their progression timelines and Workgroup assessment activities are aligned so far as is practicable.

Impacts on BSC Systems

Impacted Systems				
☐CRA	☐CDCA	☐PARMS	☐SAA	☐BMRS
☐EAC/AA	☐FAA	☐TAAMT	☐NHHDA	☐SVAA
☐ECVAA	☐ECVAA Web Service	☐Elexon Portal	☐Other (Please specify)	☒ None

This Modification does not directly impact any BSC systems.

Impacts on BSC Parties

Impacted Parties			
☒Supplier	☐Interconnector User	☐Non Physical Trader	☒Generator
☐Licensed Distribution System Operator	☒National Electricity Transmission System Operator	☐Virtual Lead Party	☐Other (Please specify)

This Modification will protect any Generators curtailed in a gas deficit emergency from an excessive imbalance charge (along with potential associated Credit Cover requirements).

Improving liquidity in the traded markets will be beneficial to all parties active in those markets, including Suppliers and Generators. The associated competition benefits will be seen by end consumers.

BSC Parties will be impacted if they pay Residual Cashflow Reallocation Cashflow (RCRC), which includes Suppliers, Generators and Non Physical Traders who are the subsidiary Parties of Metered Volume Reallocation Notifications.

Impacts on consumers and the environment

Impact of the Modification on consumer benefit areas:	
Consumer benefit area	**Identified impact**
Improved reliability and safety 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.	**Positive**
Lower bills than would otherwise be the case 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.	**Positive**
Reduced environmental damage	Neutral
Improved quality of service	Neutral
Benefits for society as a whole The combination of benefits realised from improved safety and lowering bills will ultimately create benefits for the society as a whole.	**Positive**

Legal Text Changes

An outline of the suggested BSC Sections impacted and proposed draft legal text is in Attachment A of this Proposal Form.

5 Governance

Self-Governance

☒ **Not Self-Governance –** A Modification that, if implemented:	
☐ materially impacts the Code's governance or modification procedures	☒ materially impacts sustainable development, safety or security of supply, or management of market or network emergencies
☒ materially impacts competition	☒ materially impacts existing or future electricity consumers
☒ materially impacts the operation of national electricity Transmission System	☐ is likely to discriminate between different classes of Parties
☒ involves any amendments to the EBGL Article 18 Terms and Conditions related to Balancing; except to the extent required to correct an error or as a result of a factual change	
☐ **Self-Governance –** A Modification that, if implemented:	
Does not materially impact on any of the Self-Governance criteria provided above	

This Modification Proposal should not be treated as Self-Governance. It will materially impact competition and the safety and security of supply, as the proposed solution seeks to better protect Generators from being insolvent. It also materially impact electricity customers as it will result in lower bills than could be expected otherwise.

Further, this Modification seeks to amend certain BSC Sections that constitutes EBGL Article 18 Terms and Conditions related to Balancing.

Progression route

☐ **Submit to assessment by a Workgroup** –:A Modification Proposal which:	
does not meet any criteria to progress via any other route.	
☐ **Direct to Report Phase** – A Modification Proposal whose solution is typically:	
☐ of a minor or inconsequential nature	☐ deemed self-evident
☐ **Fast Track Self-Governance** – A Modification Proposal which meets the Self-Governance Criteria and:	
is required to correct an error in the Code as a result of a factual change including but not limited to:	
☐ updating names or addresses listed in the Code	☐ correcting minor typographical errors
☐ correcting formatting and consistency errors, such as paragraph numbering	☐ updating out of date references to other documents or paragraphs

☒ **Urgent –** A Modification Proposal which is linked to an imminent issue or current issue that if not urgently addressed may cause:	
☒ a significant commercial impact on Parties, Consumers or stakeholder(s)	☐ a Party to be in breach of any relevant legal requirements.
☒ a significant impact on the safety and security of the electricity and/or gas systems	

Considering Ofgem's Urgency Criteria, we believe that this Modification should be treated as urgent because the solution needs to be in place at the earliest opportunity before winter 2022-23. This is evidenced, in respect of the significant commercial impact, by the quantum(s) shown in the table in Section 1 above. In terms of the significant impact on the security of the electricity system this is evidenced by what can be expected, should the proposed solution not be taken forward, if a GDE situation arises and the affected generators are (due to the resulting imbalance cost / associated credit cover) placed into Administration/ Liquidation / Receivership as these types of appointed organisation(s) are highly unlikely to be able to maintain the plant within the marketplace in the short to medium term (see, for example, Calon Energy administration[7] situation – which, to be clear, did not arise from a GDE) when gas supplies are restored with the associated detrimental impact on security of the electricity system (as well as detrimental effect on the marketplace).

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

No.

Does this Modification impact any of the EBGL Article 18 Terms and Conditions held within the BSC?

Yes, Section Q5 and T3 will be impacted by this Modification, which is part of the EBGL Article 18 Terms and Conditions held within the BSC.

Implementation approach

We propose that this Modification be implemented +1WD after an Authority decision. This implementation approach is proposed to be aligned with the related Grid Code Modification.

[7] Calon Energy's UK gas plants put in 'dormant state' by administrators - Energy Live News