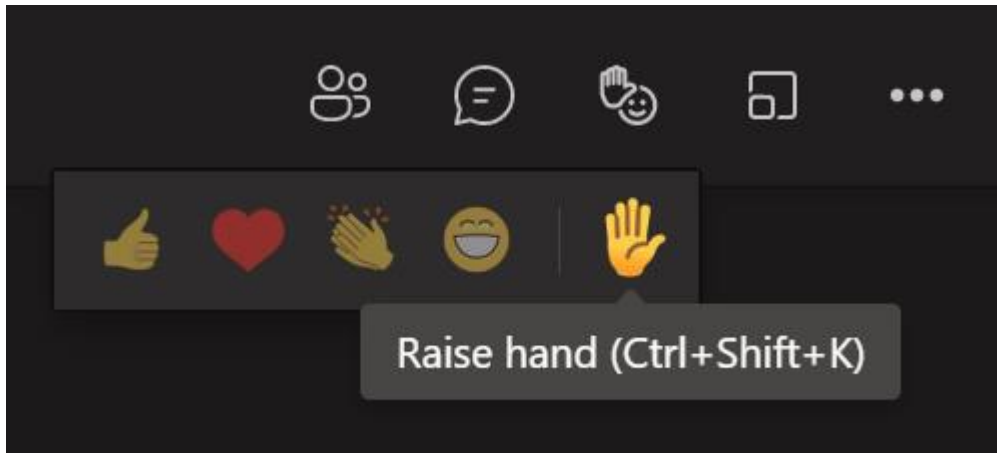


## P443 Digital Meeting Etiquette

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- Welcome to **P443 ‘To Cap NGESO Interconnector Trades at the Value of Lost Load (VoLL)’** Workgroup Meeting 2 – we’ll start shortly
- No video please to conserve bandwidth
- Please stay on mute unless you need to talk – use the **Raise hand** feature in the menu bar in Microsoft Teams if you want to speak, or use the **Meeting chat**



- Lots of us are working remotely – be mindful of background noise and connection speeds

# ELEXION

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## **P443 Workgroup 2**

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To Cap NGESO Interconnector Trades at the Value of Lost Load (VoLL)

22 November 2022

# Meeting Agenda & Objectives

- Further development and refinement of proposed solution
- Further consideration of the Terms of Reference

Agenda Item	Lead
1. Welcome and Meeting objectives	Lawrence Jones (Chair)
2. Summary of Workgroup 1 and Actions	Paul Wheeler (Lead Analyst)
3. NGESO Actions from Workgroup 1	Louise Trodden (National Grid ESO)
4. Workgroup views on the proposed solution	Workgroup
5. Terms of Reference review	Paul Wheeler
6. Progression Plan & Next steps	Paul Wheeler
7. AOB & Meeting close	Lawrence Jones



# SUMMARY OF WORKGROUP 1 AND ACTIONS

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## Summary of Workgroup 1 (1 of 5)

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- P443 Workgroup 1 was held on 15 September 2022

### What is the issue and proposed solution?

- The Proposer's representative set out the issue that there is currently nothing to stop National Grid Electricity System Operator (NGESO) buying from Interconnectors at any cost
- A recent example was on 20 July 2022, where NGESO purchased from Interconnectors at prices over £9,500/MWh, at a cost of £69m
- The Proposer's view is that there is a limit to which GB consumers are willing to pay for electricity but that high cost trades send a signal to the market that they are prepared to pay any price
- The proposed solution is to set a cap on the price that NGESO can trade with Interconnectors, either at the Value of Lost Load (VoLL) as defined in the BSC (currently set at £6,000/MWh) or in the Capacity Market (CM) (currently set at £17,000/MWh) or another value

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## Summary of Workgroup 1 (2 of 5)

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- A Workgroup Member raised a concern that the justification for the Modification is the current unprecedented situation (France having issues with Nuclear, War in Europe, etc.) and that therefore this may not be a long term solution as prices may not always be near VoLL
- The Proposer's representative's view was that this is a major issue for Generators, and questioned at what point NGESO would use the CM, which customers are currently paying for. NGESO could use the CM and issue a CM warning, as Interconnectors are obligated to provide power in the CM

### P443 Terms of Reference

- Elexon provided an overview of the specific P443 Terms of Reference (ToR). The specific ToR include the question as to whether the solution should only apply to Interconnector Users, whether there should be assurance and validation that trades are not executed above the cap and what is the appropriate level of VoLL that should be used
- The Proposer's representative questioned whether an additional ToR could be to consider whether there should only be certain circumstances where the solution applies. It is not possible for the Proposer (or their representative) or the Workgroup to add an additional ToR themselves as they are set by the BSC Panel, however, this could be covered in the development of the solution

## Summary of Workgroup 1 (3 of 5)

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### How do NGESO decide to take balancing actions, and in what order?

- NGESO presented an overview that had also been presented at the Operational Transparency Forum (OTF) on how NGESO decide to take balancing actions, and in what order
- The Proposer's representative asked if NGESO would not take balancing actions based solely on price? NGESO explained that this is the state of play and they would take actions at any price

### 20<sup>th</sup> July 2022 actions

- NGESO presented the slides that were presented to the OTF to explain the high balancing costs on 20th July 2022 and what was happening on the day
- Due to scarcity in France there were high levels of exports going to Europe. System constraints in the South East (due to unplanned outages) meant there was a shortage of power in parts of London which could not be met by GB generation, and therefore, in order to ensure demand in London could be met, NGESO bought 2.8 GW at peak across all Interconnectors

## Summary of Workgroup 1 (4 of 5)

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### NGESO changes and required impacts

- NGESO gave an initial overview of their possible changes as a consequence of P443, including C16 statements and Balancing Principles Statement
- They also presented initial thoughts on impacts, including increases in pricing, impacts to relationships with Interconnector Users and EU TSOs if trades are capped, and also security of supply, noting that NGESO's job is to keep the lights on

### Proposed solution

- A Workgroup Member made the point that the proposed solution as drafted would prevent the cost passing through to imbalance pricing via Balancing Services Adjustment Data (BSAD), but it would not prevent the cost being included in Balancing Services Use of System (BSUoS). They suggested that additional drafting (in the BSC legal text) would be needed to cover this point as the proposed drafting would not prevent NGESO from trading above VoLL. Alternatively, if this was not possible under the BSC, a consequential change to other industry codes or the Balancing Principles Statement might be required



## Summary of Workgroup 1 (5 of 5)

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### What could be the unintended consequences of the proposed solution?

- The Workgroup considered what could be some of the unintended consequences of the proposed solution, as requested by the BSC Panel when P443 was initially presented on 18 August 2022. The discussion started by NGESO presenting a scenario and questioning whether the proposed solution could lead to security of supply consequences or increase the likelihood of demand disconnection
- The Proposer's representative's view was that an unintended consequence of not implementing the proposed solution would be that there will be a signal to Interconnector Users that they can trade at any price

### Progression Plan & Next steps

- Elexon explained that P443 was following a Standard Assessment Procedure as Ofgem had rejected urgency. The P443 Assessment Report is due to be presented to the Panel at its meeting on 8 December 2022, and prior to this the proposed solution would need to be further developed and then consulted upon

## Workgroup 1 Actions

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1. NGESO to confirm where it is written (in Code or bilateral agreements) how they instruct Interconnectors
2. NGESO to check on the level of VoLL in other European countries
3. NGESO and Ofgem to report back to the Workgroup if they are seeking Demand Side Response (DSR) actions this winter and what the impact would be
4. NGESO to check whether Trading Units and customers are listed on the Data Portal, in order to have more transparency around Interconnector trading
5. Ofgem to check and report back on whether they investigated the issue on 20th July 2022
6. P443 Workgroup meeting 2 to be arranged



# NGESO ACTIONS FROM WORKGROUP 1



An aerial photograph of a river delta, likely the Amazon, showing a complex network of water channels and sediment deposits. Overlaid on the right side of the image are several bright blue, wavy lines that resemble stylized lightning or energy flows, extending from the top right towards the center of the delta.

# P443

Louise Trodden ESO

## ESO Position

Updated order of actions presented at the Markets forum and winter OTF meeting 9th Nov 2022

- [VoLL one page statement](#) on ESO website

The ESO will continue to preserve demand by taking every available commercial and market action (including accepting costs above the administered VoLL) as well as using emergency actions where necessary

Disconnection of demand will be a last resort emergency measure taken only when all other options are exhausted

# 1- ESO to confirm where it is written (in code or bilateral agreements) how they instruct interconnectors?

Section of Grid Code	Relevant information	
Planning Code	Data for Interconnectors and HVDC	
Connection conditions & European connection conditions	Technical Requirements for HVDC Systems	
Operating Code	OC2	Outages for IC owners and operators
	OC5	HDVC equipment Testing
	OC7	Externally IC SO or IC User - Operational Liaison
	OC9	States the process for support in Restoration which is generally considered as an Emergency situation
	OC10	Reporting of events
Balancing Code	BC1	Special note for IC's provisions on PN's and special actions by manual or auto means
	BC2.6.4	Communication with Externally interconnected system operators in Emergency circumstances
	BC2.9.6	EA to and from external systems
	BC2.12.1	Liaison with externally connected interconnected system operators
	BC2.13	Liaison with IC owners
Operating protocols include services which are market based- such as SO-SO trades and NTC/ITLs. Interconnectors are still bound by the Grid Code (as is the same for all parties) The operational agreements* for the IC are written based on the Grid Code but tailored to the individual interconnector technical capabilities and the respective connected TSO at the end of the interconnector		

\*Operational agreements for the IC are known as the interconnector operating protocols. These are bilateral agreements with the interconnector owner and not in the Grid Code

## 2- ESO to confirm the level of VoLL in other European Countries log Items

- Research paper suggests that this is on average 8K euros across the EU

[Download PDF | The Value of Lost Load \(VoLL\) in European Electricity Markets: Uses, Methodologies, Future Directions \(researchgate.net\)](#)

3- ESO and Ofgem to report back to the workgroup if they are seeking Demand side response (DSR) actions this winter and what the impact would be

- ESO is open to any parties in the market that want to come forwards with a proposal and have existing routes to market such as Wider Access to the BM



## 4- ESO to check whether Trading Units and customers are listed on the Data Portal, in order to have more transparency around interconnector trading

- Discussed in the last meeting and was shared in the chat. Resharing to be sure all parties have seen this is where to locate this information
- Link to BMRS below - can download files for analysis
- ESO Data Portal has all trading data and was a topic in an OTF you can replay

B

Burrige(ESO), Mark 15/09 14:25

Disaggregated Balancing Services Adjustment Data (DISBSAD)

Select Settlement Date: 2022-09-15 Settlement Period: ALL VIEW

Settlement Date: << 2022-09-15 >> | Settlement Period: ALL

<> XML CSV

For further details on Party ID and Asset ID fields, please [click here](#).  
Use the + against a row to display additional information: Party ID, Asset ID, Tendered Status & Service Type as defined in P399

	Settlement Date	SP	ID	Cost (£)	Volume (MWh)	Price (£/MWh)	SO-Flag	STCS Provider flag
+	2022-09-15	19	2	21837.34	49,000	445.66	F	F
+	2022-09-15	19	3	5643.13	12,500	451.45	F	F
+	2022-09-15	19	4	11310.25	25,000	452.41	F	F
+	2022-09-15	19	5	5692.13	12,500	455.37	F	F
+	2022-09-15	19	6	11445.00	25,000	457.80	F	F
+	2022-09-15	19	7	23368.71	51,000	458.21	F	F
+	2022-09-15	19	8	22644.00	50,000	452.88	F	F
+	2022-09-15	20	1	10841.50	25,000	433.66	F	F
+	2022-09-15	20	2	21837.34	49,000	445.66	F	F
+	2022-09-15	20	3	5643.13	12,500	451.45	F	F
+	2022-09-15	20	4	11310.25	25,000	452.41	F	F

Counterparty names can be found by clicking the + icon on the left of each trade

<https://www.bmreports.com/bmrs/?q=/balancing/balancingserviceadjdata/2022-01-28/18>



# WORKGROUP VIEWS ON THE PROPOSED SOLUTION

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## Workgroup views on the proposed solution

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- The Proposer presented the issue and the proposed solution at Workgroup meeting 1
- We welcome the views of Workgroup Members on the proposed solution and whether you believe it will deliver the intent of P443



# WHAT IS THE ISSUE AND PROPOSED SOLUTION?



## P443: Background and Issue

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- At the current time National Grid Electricity System Operator (NGESO) can trade at prices above the Value of Lost Load (VoLL) – currently £6,000/MWh
- This adds to customers' costs and sends a signal to the markets that customers are willing to buy power at any price
- In a cost of living crisis the Proposer does not believe that the British public are prepared to buy energy at any price and therefore a price cap before emergency actions seems a sensible safety net
- If NGESO has a price cap it will signal to the market that it will not simply buy through spiralling prices. Instead, it would cease to buy energy and start to use other energy management tools when offers to sell power are above VoLL. The Proposer would see these other actions as being:
  - Issuing Capacity Market Warnings (CMW), to which interconnectors have an obligation to respond;
  - Use Electricity Margin Notices (EMNs); and
  - Start to manage demand, either via Demand Side Response (DSR) services or if necessary via load shedding.

## P443: Proposed solution

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- The Proposer's preferred option is to alter BSC Section Q 'Balancing Mechanism Activities' to add in a new paragraph as follows:
- 6.3.2D For any Balancing Services Adjustment Action [provided using an Interconnector] and with a positive Balancing Services Adjustment Volume, the Balancing Services Adjustment Cost cannot be greater than  $\text{VoLL} * \text{Balancing Services Adjustment Volume}$
- The solution will require NGESO to cap its offers to Interconnector Users to no more than VoLL, as defined in the BSC
- These trades are included in the Balancing Services Adjustment Data (BSAD) file, which is sent from NGESO to Elexon. Elexon process the BSAD file for the purposes of Settlement and reporting, with no changes to the file structure or format required

## P443: Views against the Applicable BSC Objectives

- The Proposer believes that this Modification Proposal will better facilitate the following Applicable BSC Objectives:

Applicable BSC Objective	Proposer’s initial views
(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System	NGESO will not simply buy through all offers to meet demand, rather they will use other tools e.g. Capacity Market
(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	Will protect customers and also Generators and Suppliers who are short in a particular Settlement Period by offering protection from excessive prices
(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	If electricity supplies are short and prices are above the level that customers are willing to pay, the System Operator can issue a Capacity Market Warning for Capacity Market Parties to respond to



# TERMS OF REFERENCE



# Terms of Reference Summary

Item	Status
P443 Specific Terms of Reference	In progress
Costs and impacts	To be determined from Elexon internal impact assessment and industry consultation
EBGL Article 18 impacts	Yes – based on current proposed solution
Self-Governance?	Initial view – not SG due to EBGL impacts
Any Alternative Modifications?	None raised yet
Views against Applicable BSC Objectives	Workgroup to provide their views at the next meeting prior to industry consultation

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## Terms of Reference – P443 Specific ToR

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### P443 Specific ToR

- a) Should the solution only apply to interconnectors?
- b) Assurance and validation – should Elexon validate that NGESO have not executed Interconnector Trades above VoLL?
- c) Is this consistent with EBGL objectives and other retained EU law?
- d) What is the appropriate value of VoLL that should be used?
- e) What could be the unintended consequences of the proposed solution?

## Terms of Reference – Standard ToR

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### Standard ToR

- f) How will P443 impact the BSC Settlement Risks?
- g) What changes are needed to BSC documents, systems and processes to support P443 and what are the related costs and lead times?  
When will any required changes to subsidiary documents be developed and consulted on?
- h) Are there any Alternative Modifications?
- i) Should P443 be progressed as a Self-Governance Modification?
- j) Does P443 better facilitate the Applicable BSC Objectives than the current baseline?
- k) Does P443 impact the EBGL provisions held within the BSC, and if so, what is the impact on the EBGL Objectives?



# SPECIFIC TERMS OF REFERENCE

## Who should the solution apply to?

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### a) Should the solution only apply to interconnectors?

- The Proposer raised a question in the Solution section of the Proposal Form as to whether the cap should just apply to interconnector trades
- The Proposer believes the cap should only apply to interconnector trades because all GB generators/traders/suppliers are regulated by Ofgem and can be investigated if prices are believed to no longer be cost reflective and/or go beyond scarcity pricing
- The Proposer is also keen that customers who offer Demand Side Response (DSR) are free to do so at a price that will reflect their own VoLL. For some industries that may be higher than £6,000/MWh
- What are the Workgroup's thoughts on who the solution should apply to?

### b) Assurance and validation – should Elexon validate that NGESO have not executed Interconnector Trades above VoLL?

- We welcome the Workgroup's views on whether Elexon should validate that NGESO have not executed Interconnector Trades above VoLL?
- If yes, how often should the validation check be carried out? What would be the consequences and next steps?
- The current solution as drafted means that NGESO would not be prevented from executing trades above VoLL. They could effectively still execute trades above VoLL, but only include the trade at the cap in the Balancing Settlement Adjustment Data (BSAD) file sent by NGESO to BSCCo
- This would mean that the VoLL value (BSC - £6,000/MWh, CM - £17,000/MWh or another value) would go through to cash out prices and the residual would feed into Balancing Services Use of System (BSUoS) charges

## EBGL objectives and other retained EU law

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c) Is this consistent with EBGL objectives and other retained EU law?

- To be considered by the Workgroup
- The EBGL objectives are on the third page of the Agenda for P443 Workgroup Meeting 2



d) What is the appropriate value of VoLL that should be used?

- Which value of VoLL should be used?

Source	Value
BSC	£6,000/MWh
Capacity Market	£17,000/MWh
Other	???

- We welcome the Workgroup’s view on whether the BSC or Capacity Market value of VoLL should be used, or another value?



## Unintended consequences

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### e) What could be the unintended consequences of the proposed solution?

- P443 was presented to the Panel on 18 August 2022
- The Panel were keen to ensure that the P443 Workgroup consider what may be the unintended consequences of the proposed solution

This was discussed at the first meeting and NGESO presented the scenario on the next slides for discussion

Would this Modification Proposal lead to increased Demand Control Events or risk security of supply?

## Winter outlook text

### Interconnectors

We assume that interconnectors are able to provide **5.7 GW** net imports at times when GB needs it. This is consistent with their Capacity Market obligations. Our Base Case assumes 2.7 GW additional interconnector capacity that was not available last winter. This includes Eleclink which is now operational, and both IFA and NSL operating at full capacity. There is uncertainty on the availability of the French nuclear fleet for winter. This could lead to more export flows from Great Britain to France when our system margins are not tight. We are continuing to monitor the outlook in France and will undertake further assessments ahead of the Winter Outlook Report in the autumn.

Discussion point: What would this mean for the ESO and how would it impact consumers?

Discussion point : Are there any security of supply consequences and would this increase the likelihood of demand disconnection if we need to trade above VoLL (£6,000) to secure the imports to manage a system margin requirement?

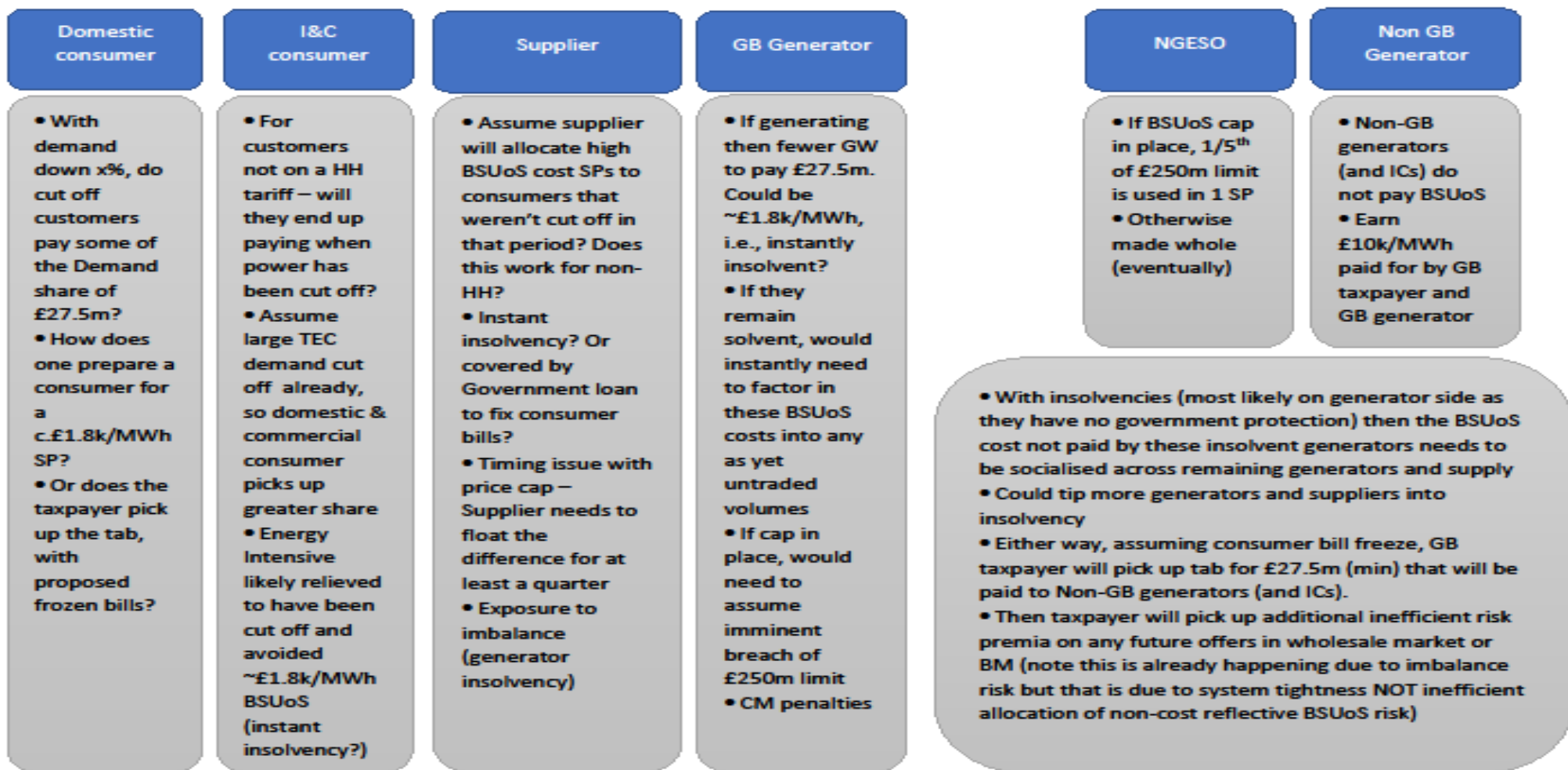
## Unintended consequences

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e) What could be the unintended consequences of the proposed solution?

- The scenario on the next slide was presented by the Proposer at the first Workgroup meeting

**Scenario : Insufficient generation due to cold weather, no wind and generator outages. NGESO reverses direction of 5.5GW of IC export @ £10,000/MWh. Total cost is £55 million in one Settlement Period. Despite this effort, load control is required, reducing demand by 30% from 45GW to 30GW.**







# STANDARD TERMS OF REFERENCE

## Settlement Risks

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### f) How will P443 impact the BSC Settlement Risks?

- It is not expected that P443 will impact the BSC Settlement Risks
- A Settlement Risk is a risk of any failure or error in a process required under the BSC that may impact (or has impacted) Settlement. These are recorded on the Risk Evaluation Register (RER)
- There are 34 Settlement Risks in total

## BSC document and system impacts

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g) What changes are needed to BSC documents, systems and processes to support P443 and what are the related costs and lead times? When will any required changes to subsidiary documents be developed and consulted on?

- At this stage, inserting a new paragraph in BSC Section Q 'Balancing Mechanism Activities' is the proposed solution
- No further document changes or system impacts have been identified
- A detailed Internal Impact Assessment (IIA) will be carried out to identify any impacts on Elexon processes and operations



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## Alternative Modifications

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### h) Are there any Alternative Modifications?

- No Alternative Modifications have been proposed at this stage

### i) Should P443 be progressed as a Self-Governance Modification?

- P443 cannot be Self-Governance as it is expected to impact the EBGL Article 18 terms and conditions
- The Proposer's preferred option is to alter BSC Section Q 'Balancing Mechanism Activities' to add in a new paragraph as follows:
  - **6.3.2D For any Balancing Services Adjustment Action [provided using an Interconnector] and with a positive Balancing Services Adjustment Volume, the Balancing Services Adjustment Cost cannot be greater than  $VoLL * \text{Balancing Services Adjustment Volume}$**
- The Proposer believes that, even without Article 18 impact, P443 should go to Ofgem for decision as it materially impacts:
  - sustainable development, safety or security of supply, or management of market or network emergencies
  - competition
  - materially impacts existing or future electricity consumers
  - impacts the operation of national electricity Transmission System
- and is likely to discriminate between different classes of Parties

# Applicable BSC Objectives

j) Does P443 better facilitate the Applicable BSC Objectives than the current baseline?

The Proposer believes that this Modification Proposal will better facilitate the following Applicable BSC Objectives:

Applicable BSC Objective	Proposer’s initial views
(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System	NGESO will not simply buy through all offers to meet demand, rather they will use other tools e.g. Capacity Market
(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	Will protect customers and also Generators and Suppliers who are short in a particular Settlement Period by offering protection from excessive prices
(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	If electricity supplies are short and prices are above the level that customers are willing to pay, the System Operator can issue a Capacity Market Warning for Capacity Market Parties to respond to

k) Does P443 impact the EBGL provisions held within the BSC, and if so, what is the impact on the EBGL Objectives?

- The Proposer's preferred option is to alter BSC Section Q 'Balancing Mechanism Activities' to add in a new paragraph as follows:
- 6.3.2D For any Balancing Services Adjustment Action [provided using an Interconnector] and with a positive Balancing Services Adjustment Volume, the Balancing Services Adjustment Cost cannot be greater than  $\text{VoLL} * \text{Balancing Services Adjustment Volume}$
- BSC Section Q6.3 forms part of the EBGL Article 18 Terms and Conditions (as mapped in BSC Section F 'Modification Procedures' Annex F-2')



# NGESO CHANGES REQUIRED AND IMPACTS

# NGESO changes and required impacts

Possible changes required – initial thoughts	Possible impacts- initial thoughts
<ul style="list-style-type: none"><li>• C16/Balancing principles statement</li><li>• Control room process</li><li>• Trading team actions</li><li>• Reporting on BSAD</li></ul>	<ul style="list-style-type: none"><li>• Increases in pricing</li><li>• Impacts to relationships with Interconnectors and EU TSOs if trades are capped</li><li>• Security of supply?</li></ul>





# PROGRESSION PLAN & NEXT STEPS

## Progression Plan

Event	Date
Initial consideration by Workgroup	15 September 2022
Second Workgroup meeting	22 November 2022
Third Workgroup meeting	7 December 2022
Assessment Consultation	15 Working Days
Fourth Workgroup meeting	TBC
Assessment Report presented to Panel	9 March 2023
Report Phase Consultation	13 March 2023 – 13 April 2023
Draft Modification Report presented to Panel	11 May 2023
Final Modification Report submitted to Authority	15 May 2023

At its November 2022 meeting, the BSC Panel agreed to a three month extension to the Assessment Procedure



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## Next steps

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- Workgroup Summary to be issued by 28 November 2022
- Post meeting actions to be addressed
- Workgroup 3 will be held on 7 December 2022, prior to industry consultation on the proposed solution
- Any Other Business?

MEETING CLOSE

# ELEXON

## THANK YOU

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**Paul Wheeler**

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22 November 2022