

# **GC0162:** Changes to OC6 to amend the operational timings for the delivery of the additional demand reduction above 20%, with a focus between 20% and 40%

## Workgroup 2

**22 August 2023**  
**Online Meeting via Teams**

# WELCOME



# Agenda

#	Topics to be discussed	Lead
1.	Welcome, Objectives and Timeline	Chair
2.	Terms of Reference	Chair
3.	Actions Review	All
4.	Draft Legal Text, Worked Example and Scenarios	Proposer
5.	Cross Code Impacts <ul style="list-style-type: none"><li>• Review of DCode Legal Text for GC0161</li><li>• Impacts of GC0117</li></ul>	All
6.	Any Other Business	Chair
7.	Next Steps	Chair



# Objectives and Timeline

Lizzie Timmins – ESO Code Administrator

# Timeline for GC0162

Milestone	Date	Milestone	Date
Electricity Shortfall Prioritisation Review – Workshop agree to proceed with a urgent modification	29 June 2023	Workgroup 6 – Hold Workgroup Vote, Finalise Workgroup Report	03 October 2023
Urgent modification proposal submitted	20 July 2023	Workgroup report issued to Panel (3 working days)	09 October 2023
Modification presented to Panel	27 July 2023	Panel sign off that Workgroup Report has met its Terms of Reference	12 October 2023 (Special Panel)
Workgroup Nominations (5 Working Days)	28 July 2023 to 4 August 2023	Code Administrator Consultation (1 calendar month)	13 October 2023 to 14 November 2023
Ofgem grant Urgency	04 August 2023	Draft Final Modification Report (DFMR) issued to Panel (2 working days)	20 November 2023
Workgroup 1 – Agree timeline, Terms of Reference and discuss solution	10 August 2023	Panel undertake DFMR recommendation vote	23 November 2023 (existing Panel meeting)
Workgroup 2 – Refine solution and potential alternatives	22 August 2023	Final Modification Report issued to Panel to check votes recorded correctly (<1 working days)	23 November 2023 (11am to 12pm)
Workgroup 3 – Refine solution and potential alternatives	29 August 2023	Final Modification Report issued to Ofgem	23 November 2023 (12pm)
Workgroup 4 - Finalise Workgroup Consultation	07 September 2023	Ofgem decision	01 December 2023 (5pm)
Workgroup Consultation (5 working days)	12 September 2023 to 18 September 2023	Implementation Date	By 15 December 2023
Workgroup 5 - Assess Workgroup Consultation Responses	21 September 2023		



# Terms of Reference

Lizzie Timmins – ESO Code Administrator

# Proposed Terms of Reference (to be agreed at GCRP on 24 August 2023)

## Workgroup Terms of Reference

- a) Implementation and costs;
- b) Review draft legal text should it have been provided. If legal text is not submitted within the Grid Code Modification Proposal the Workgroup should be instructed to assist in the developing of the legal text;
- c) Consider whether any further Industry experts or stakeholders should be invited to participate within the Workgroup to ensure that all potentially affected stakeholders have the opportunity to be represented in the Workgroup. Demonstrate what has been done to cover this clearly in the report; and
- d) Consider EBR implications
- e) Ensure that the scope of work identified is achievable within the timeframe outlined in the Ofgem Urgency decision letter.
- f) Consider whether the solution has consequences on OC6 that would prevent the intention of the modification being achieved.
- g) Consider the implications for the Distribution Code, including DOC6
- h) Consider cross code implications.
- i) Focus on the arrangements for demand disconnection in the range 20%-40%
- j) Consider whether it is appropriate to remove the prohibition on protecting site supplies, where technically feasible, for demand disconnection in the range 20%-40% (as implemented in GC0161 for demand disconnection in the range 0-20%).
- k) Undertake analysis to consider any adverse implications for the security of supplies to customer generally arising from the protection of supplies to critical sites due to the increased switching time.
- l) Undertake analysis to consider any adverse implications for the generator reserve and response requirement arising from the protection of supplies to critical sites due to the increased switching time.



# Actions Review

## All


# Actions Review

Action number	Workgroup Raised	Owner	Action	Comment	Due by	Status
1	WG1	JW	Share updated Terms of Reference with GCRP for review	Submitted as part of GCRP Panel Papers	WG3	Open
2	WG1	LT	Check on potential implications for GC0117	To be discussed during WG2	WG2	Open
3	WG1	DNOs	Investigate if 5 minutes time for SCADA operational switching is workable	NA	WG2	Open
4	WG1	LT	Contact ENW and NGED to make them aware of action 3	Contacted – awaiting response	WG2	Open
5	WG1	UF	Review draft legal text, potentially removing (3a) from OC6.1.5, amending OC6.5.4(b) and OC6.5.5(c)	Completed – to be discussed at WG2	WG2	Open
6	WG1	JZH	Bring a list/table of scenarios to next WG to address Term of Reference K, after further discussion with control room	Scenarios within slides for WG2	WG2	Open
7	WG1	All	Consider scenarios ahead of next WG to address Term of Reference K	NA	WG2	Open
8	WG1	MK/LT	Circulate proposed changes to Distribution Code as a consequence of GC0161	Circulated as part of WG2 Papers	WG2	Open
9	WG1	UF	To bring a response to GG e-mail regarding consequential and concurrent instructions to WG2	To be discussed at WG2	WG2	Open



# **Draft Legal Text, Worked Example and Scenarios**

**Usman Farooq – ESO**



OC6 Modification - GC0162: Changes to OC6 to amend the operational timings for the delivery of the additional demand reduction above 20%, with a focus between 20% and 40%.

# Context & Electricity Shortfall Prioritisation Review (ESPR)

Due to tightening winter margins and additional risks (e.g., war in Ukraine, change in generation mix) that could impact the availability of electricity supply, there has been an increased focus on the tools the ESO would use to reduce demand to ensure the GB Electricity System remains balanced in the event of a supply shortfall.

Ahead of last winter the ESO and Network Operators provided explanations to HMG and media on the likelihood of a supply shortfall and the impacts it would have on electricity consumers. Concerns were raised about the lack of any protection under OC6, as well as the inability to rotate demand reductions if the shortfall lasted for a prolonged period of time. In response to these concerns, the DESNZ lead Electricity Shortfall Prioritisation Review (ESPR) was kicked off.

ESPR objectives included the development of an approach to prioritisation that is consistent as possible across all forms of demand control (LFDD, OC6, ESEC). In particular to ensure that operational time requirements to enact demand disconnection between 20% and 40% are feasible. In order to support that alignment and to address some of the concerns ahead of winter 23/24, GC0162 modification has been proposed.



# Grid Code Mods

GC Mod	Purpose	Proposed GC Changes	Benefit
GC0161	To remove wording in OC6 that prevents the protection of particular consumers or not to unduly discriminate/prefer particular customers.	Remove relevant text in OC6.1.5 and OC6.2.1	Will allow the DNOs, where technically possible, to use the 5% demand blocks currently utilised for ESEC for OC6 Demand Control (OC6.5.3), therefore ensure the protection of key sites.
GC0162	To clarify/amend the operational timings for the delivery of the additional demand reduction between 20% and 40% under OC6.5	Additional text specifying when each additional 5% demand can be delivered above 20% (i.e. 5mins for each additional 5% demand block)	Will allow the DNOs, where technically possible, to use the 5% demand blocks currently utilised for ESEC for OC6 Demand Control above 20% (OC6.5.4 & 5), therefore ensure the protection of key sites.
GC01XX (in draft)	Introduce a new demand reduction tool into OC6 for margin shortfall scenario, with [6/24] hours notice .	Additional section under OC6 (OC6.9) detailing the margins shortfall procedure with [6/24] hours notice.	Will allow the DNOs, where technically possible, to use the 5% demand blocks currently utilised for ESEC for OC6 Demand Control, therefore ensure the protection of key sites and allow rotation of the Demand Blocks.

In Progress

## OC6 - Operational Timings

The current demand blocks used to facilitate OC6 demand reduction are generally switched at the 33 kV Level. This means the actions can be delivered in short timescales and without any reconfiguration of the networks. However, these blocks do not protect any sites, due to the high level that the switching occurs.

DESNZ, ESO and the DNO's would like to be able to use the demand blocks utilised for ESEC demand reductions under an OC6 event, where technically possible. The current ESEC demand blocks are generally switched at the 11 kV level, which means it takes longer to complete the switching programme to remove each 5% demand block, but provides greater granularity allowing for sites to be protected.

While switching at 11kV level brings an increased level of granularity, it also increases time requirements to enact. OC6 currently dictates the operational timing requirements to enact demand disconnection events. In order to ensure that we can protect sites in the event of a demand disconnection event between 20% and 40%, i.e. use of ESEC blocks, timing requirements need to be changed. The current time requirements means that ESEC blocks cannot be used and that sites cannot be protected. This modification aims to change those timing requirements.

# Example: Operational Timings

Time Instruction Issued by ESO	Action start by DNO	Action completed by DNO	Demand level at
<b>Scenario 1 – Just to 20%</b>			
14:49	14:51 [+2]	n/a	100%
14:49	n/a	14:54 [+5]	80%
<b>Scenario 2 – to 25%</b>			
14:49	14:51 [+2]	n/a	100%
14:49	n/a	14:54 [+5]	80%
14:54	14:54	14:59 [+5]	75%
<b>Scenario 3 – to 40%</b>			
14:49	14:51 [+2]	n/a	100%
14:49	n/a	14:54 [+5]	80%
14:54	14:54	14:59 [+5]	75%
14:59	14:59	15:04 [+5]	70%
15:04	15:04	15:09 [+5]	65%
15:09	15:09	15:14 [+5]	60%
<b>Scenario 4 – to 25% but a three minute delay from 20% to 25%</b>			
14:49	14:51 [+2]	n/a	100%
14:49	n/a	14:54 [+5]	80%
14:57 [+3]	14:57	15:02 [+5]	75%

# Concurrent vs Sequential

Time Instruction Issued by ESO	Action start by DNO	Action completed by DNO	Demand level at
14:49	14:51 [+2]	n/a	100%
14:49	n/a	14:54 [+5]	80%
14:53 [-1]	14:54	14:59 [+6]	75%

Scenario A – The second demand disconnection request is initiated after the first one is completed.

Time Instruction Issued by ESO	Action start by DNO	Action completed by DNO	Demand level at
14:49	14:51 [+2]	n/a	100%
14:49	n/a	14:54 [+5]	80%
14:53 [-1]	14:53	14:58 [+5]	75%

Scenario B – The second demand disconnection request is initiated while the first one is being completed.

## Scenarios for using OC6.5.4 & 5

- Due to need to notify DNOs by 1600 hours on the previous day, the requirements for demand reduction above 20% and more than 40%, under OC6.5.4 & 5 means that the most likely scenario that this will be used to manage a shortfall in supply to meet demand risk that is forecast the day before.
- There maybe a number of credible causes for the shortfall risk include a suspected type fault on a particular generation portfolio or gas supply emergency (inc pre emergency).

# Legal Text – Proposed Changes

## Draft legal text

OC6.1.5 The Electricity Supply Emergency Code as reviewed and published from time to time by the appropriate government department for energy emergencies provides that in certain circumstances consumers are given a certain degree of "protection" when rota disconnections are implemented pursuant to a direction under the Energy Act 1976. No such protection can be given in relation to **Demand Control** under the **Grid Code**, except in relation to those **Demand Disconnection** stages referred to in OC6.5.~~3(a)~~ and where such protection is technically feasible, although, even in these situations, protection cannot be guaranteed.

# Legal Text – Proposed Changes

## Draft legal text

6.5.4(b) - The **National Electricity Transmission System Warning - High Risk of Demand Reduction** will specify the percentage of **Demand** reduction that **The Company** may require in integral multiples of the percentage levels notified by **Users** under OC6.5.3(~~ce~~) up to (and including) 20 per cent and ~~of five percent between four and six per cent~~ above 20 per cent and will not relate to more than 40 per cent of **Demand** (~~measured at the time the Demand reduction is required~~) of the **Demand** on the **User System** of a **Network Operator**.

# Legal Text – Proposed Changes

## Draft legal text

OC6.5.5(c) - ~~Other than with regard to the proviso, the provisions of OC6.5.3 shall apply to those instructions.~~ Other than with regard to the proviso in sub-paragraph (b), the provisions of OC6.5.3 shall apply to those instructions, except in regards to OC6.5.3(d) where **Demand Control** initiated by **Demand Disconnection** shall be initiated as soon as possible but in any event no longer than two minutes from the instruction being received from **The Company**, and the first 20% of **Demand Disconnection** completed within five minutes of the instruction being received from **The Company**, and any further **Demand**

**Disconnection** above 20% to take 5 minutes for each extra 4 to 6 percent of **Demand** being disconnected.



## Cross Code Impacts

- Review of DCode Legal Text for GC0161
- Review GC0117 Impacts



## **Any Other Business**

**Lizzie Timmins – ESO Code Administrator**



## Next Steps

Lizzie Timmins – ESO Code Administrator