

Draft Final Modification Report

GC0109:

Publication of the various GB electricity Warnings or Notices or Alerts or Declarations or Instructions or Directions etc. (“System Warning Alerts”) issued by or to the Network Operator(s).

Overview: GC0109 seeks to publish on BMRS any System Warning Alerts that are not currently shared with market participants.

Modification process & timetable

- 1 • **Proposal form**
• 21 February 2018
- 2 • **Workgroup Consultation**
• 25 November 2020 - 16 December 2020
- 3 • **Workgroup Report**
• 17 February 2021
- 4 • **Code Administrator Consultation**
• 10 March 2021 - 12 April 2021
- 5 • **Draft Final Modification Report**
• 21 April 2021
- 6 • **Final Modification Report**
• 12 May 2021
- 7 • **Implementation**
• 30 working days after Authority decision

Have 5 minutes? Read our [Executive summary](#)

Have 20 minutes? Read the full Draft Final Modification Report

Have 30 minutes? Read the full Draft Final Modification Report and Annexes.

Status summary: Draft Final Modification Report. This Report will be submitted to the Grid Code Review Panel for them to carry out their Recommendation Vote on whether this change should happen.

This modification is expected to have a: **Medium impact** on Transmission Owners (including OFTOs and Interconnectors), Distribution Network Operators, Transmission System Users, the ESO, ELEXON and Generators.

Governance route

This modification has been assessed by a Workgroup and Ofgem will make the decision on whether it should be implemented.

The Proposer sought urgent treatment of GC0109 at the June 2018 Grid Code Review Panel (GCRP). The GCRP, by majority, recommended urgency and provided this recommendation to Ofgem on 4 July 2018. Ofgem, in their [decision letter](#) of 13 August 2018, did not grant Urgency¹. However, Ofgem encouraged the ESO to explore ways to increase transparency around system warnings as soon as possible, and potentially outside of the industry codes process if appropriate.

¹ Ofgem stated in their decision letter on Urgency “We do not consider that the arguments raised by the Proposer in the request are substantiated with sufficient evidence or explanation of how failure to consider GC109 on an urgent basis would result in a significant commercial impact on market participants”

Who can I talk to about the change?	Proposer: Garth Graham, SSE Generation garth.graham@sse.com Phone: 01738 456000	Code Administrator Chair: Paul Mullen paul.i.mullen@nationalgrideso.com Phone: 07794 537028
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Executive Summary

GC0109 seeks to require the ESO to publish on BMRS any GB electricity Warnings or Notices or Alerts or Declarations or Instructions or Directions etc. (“System Warning Alerts”) issued by or to the ESO that are not currently required to be shared with market participants.

What is the issue?

There are various GB electricity Warnings or Notices or Alerts or Declarations or Instructions or Directions etc., issued by or to the Network Operator(s), which currently are not shared in a timely manner to other market participants or may not be available at all to other market participants.

What is the solution and when will it come into effect?

Proposer’s solution:

<p>Grid Code Changes - Obligation in Grid Code for Network Operators to issue all System Warning Alerts² issued³ or received (including whether they ‘activate’ or ‘deactivate’ an action) to market participants via ELEXON.</p>	<p>Publish on BMRS - All System Warning Alerts to be sent by the ESO to ELEXON and issued on BMRS</p>	<p>Timing – Window of 15 minutes (on a reasonable endeavours basis) from the ESO issuing the System Warning Alert to ELEXON publishing it on the BMRS.</p> <p>Window of 15 minutes (on a reasonable endeavour basis) from the ESO receiving the System Warning Alert to ELEXON publishing it on the BMRS.</p>
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Implementation date:

30 working days after Authority decision.

The Proposer noted the ESO Workgroup Member’s concerns (raised as part of their Workgroup Consultation response) that an implementation of 10 working days from Ofgem decision was insufficient to update processes and train and agreed to amend the GC0109 Original to the ESO Workgroup Member’s proposal of implementation 30 working days after Authority decision.

Summary of potential alternative solution(s) and implementation date(s):

WAGCM1 – as per Original but remove the specificity to BMRS in the legal text. Implementation Date will be as per Original.

² As proposed to be listed in Grid Code OC7 Appendix 2 – see Annex 4 for more details

³ Or amended, or updated

Workgroup conclusions: The Workgroup concluded unanimously that both the GC0109 Original and WAGCM1 better facilitated the Grid Code Objectives than the Baseline (the current Grid Code).

What is the impact if this change is made?

The Proposer believes that publication of these System Warning Alerts will provide enhanced transparency for market participants, so they have confidence that the operation of the NETS is robust.

Estimates suggest there are minimal costs and process impacts on the ESO to send the additional System Warning Alerts to ELEXON. No system costs are envisaged for ELEXON based on the implementation options being brought forward.

Interactions

There are some parallels with GC0133⁴, as GC0133 also seeks to publish additional data on the state of the GB NETS. However, the scope of GC0133 is much more specific in seeking the publication of the GB System State as inputted by the ESO to the European Awareness System. GC0109 covers a wider range of System Warning or Alerts. (irrespective of whether or not System Warning Alerts have or have not been published).

The Workgroup noted Ofgem's [send back letter](#) on GC0133, and specifically highlighted two points:

- Need more detailed information on how specific market participants could use the system state updates in practice, and a demonstration of what positive steps they could take upon receiving these updates; and
- It does not describe the underlying evidence on the benefits and/or costs e.g., whilst GC0133 refers to "improving wider industry communications", it does not demonstrate or provide evidence on how GC0133 would lead to those end benefits.

Noting the parallels with GC0133, the Workgroup considered these points for GC0109 in the "What is the impact of this change?" section of this document. The Workgroup removed 3 of the proposed System Warning Alerts from the GC0109 Original after full consideration of the value of publishing these.

Interactions with the Electricity Balancing Guideline (EBGL) Article 18

The Electricity Balancing Guideline (EBGL) is a European Network Code introduced by the Third Energy Package European legislation in late 2017. The EBGL regulation lays down the rules for the integration of balancing markets in Europe, with the objectives of enhancing Europe's security of supply. Article 18 of the EBGL states that TSOs such as the ESO should have terms and conditions developed for balancing services, which are submitted and approved by Ofgem.

There is a change process outlined in other EBGL Articles 4, 5, 6 & 10 on how a proposal should be submitted, approved by Ofgem, how it should be amended, and that there should be a one-month public consultation.

⁴ <https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0133-timely-informing-gb-nets-system-state>

ESO submitted terms and conditions for approval to Ofgem that included different sections of different GB network codes, BSC, CUSC and Grid Code, as well as some of the Standard Contract Terms (SCTs). This means that if any of those sections change through a modification, they will also legally have to go through a change process that meets the criteria set out in EBGL. However, GC0109 does not have any EBGL implications as it does not change the SCTs for Balancing Providers and places no obligation on market participants.

For Grid Code, it was agreed⁵ that even if the Modification is not related to EBGL, a 1-month Code Administrator Consultation would be run – **therefore this Code Administrator Consultation will be run for 1 month.**

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- **When will the change take place?**
- **How to respond**
 - Code Administrator Consultation questions
- **Acronyms, key terms and reference material**

⁵ <https://www.nationalgrideso.com/document/171976/download>

What is the issue?

There are various System Warning Alerts issued by or to the Network Operator(s), which currently are not shared in a timely manner to other market participants or may not be available at all to other market participants.

The Proposer considers that there is no timely publication of the various System Warning Alerts and not all market participants currently get these.

What is the solution?

Proposer's solution:

<p>Grid Code Changes - Obligation in Grid Code for Network Operators to issue all System Warning Alerts⁶ issued⁷ or received (including whether they 'activate' or 'deactivate' an action) to market participants via ELEXON.</p>	<p>Publish on BMRS - All System Warning Alerts to be sent by the ESO to ELEXON and issued on BMRS</p>	<p>Timing – Window of 15 minutes (on a reasonable endeavours basis) from the ESO issuing the System Warning Alert to ELEXON publishing it on the BMRS.</p> <p>Window of 15 minutes (on a reasonable endeavour basis) from the ESO receiving the System Warning Alert to ELEXON publishing it on the BMRS.</p>
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The Proposer confirmed that the intention of GC0109 is for all the System Warning Alerts to be made available to all market participants at the same time. If all market participants are not notified at the same time, the Proposer believes that there may be market effects to the detriment of the smaller players in the market.

The Original Proposal included an indicative list of the items that should be captured within this change – the Original Proposal is set out in Annex 1 of this document.

Workgroup Considerations

The Workgroup has convened 10 times to discuss the perceived issue, detail the scope of the proposed defect, devise potential solutions and assess the proposal in terms of the Applicable Code Objectives.

The Workgroup held their Workgroup Consultation between 25 November 2020 and 16 December 2020 and received 5 responses (none of which were confidential). The full responses and a summary of the responses can be found in Annexes 5 and 6 respectively. The majority of the respondents supported the change and the proposed implementation.

However, the ESO Workgroup Member:

⁶ As proposed to be listed in Grid Code OC7 Appendix 2 – see Annex 4 for more details

⁷ Or amended, or updated

1. Argued for the removal of 3 System Warning Alerts from the scope of GC0109 – see section 1a below for more details;
2. Proposed implementation to be 30 (rather than 10) working days after Authority decision – see “When will this change take place” for more details; and
3. Proposed that no need to specify BMRS in the legal text – see “1c) Removing the need to specify BMRS” section for more details.

The Proposer agreed to the ESO Workgroup Member’s suggestions apart from the proposal to not specify BMRS in the legal text. Therefore, the ESO Workgroup Member proposed a request for alternative, which is further discussed in “1c) Removing the need to specify BMRS”.

Consideration of the Proposer’s solution

1) Grid Code Changes

The Workgroup agreed four elements to the System Warning Alerts, which influence whether they form part of the GC0109 solution.

Following the Workgroup Consultation, 3 of these System Warning Alerts were removed from the GC0109 Original – these are shown as struck out red text in the attached table. The rationale for the exclusion of these is set out later in the “Removal of 3 System Warning Alerts” section of this document.

Further details on each of these items is set out in Annex 3 of this document, including who issues the System Warning Alert, how is it issued, when and where it is published. This builds on the table that was provided within the Original Proposal.

<p>Category 1: System Warning Alerts that are already defined in the Grid Code and have corresponding BSC requirements for them to be reported to ELEXON and published on the BMRS in accordance with BSC Section Q6.1.14 (System Warnings) and Q6.9.4 (Demand Control Instructions)</p>	<p><u>System Warnings</u></p> <ul style="list-style-type: none"> • System Warning - EMN (Electricity Margin Notice) – definition in Grid Code OC7.4.8.5 • System Warning – HRDR⁸ (For Margin) – definition in Grid Code OC7.4.8.6(a) • System Warning – HRDR (For Local System Issues) – definition in Grid Code OC7.4.8.6(b) <p><u>Demand Control Instructions</u></p> <ul style="list-style-type: none"> • System Warning - Demand Control Imminent – definition in Grid Code OC6.5.2, OC7.4.8.2(c) and OC7.4.8.7 • System Warning - Risk of System Disturbance – definition in Grid Code OC7.4.8.8 	<p>Not in Scope – already codified and published on BMRS</p>
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⁸ “High Risk of Demand Reduction”.

	<ul style="list-style-type: none"> • Demand Control by Demand Disconnection instructed by the ESO – definition in Grid Code OC6.5 • Demand Control by voltage reduction instructed by the ESO – definition in Grid Code OC6.5 • Automatic Low Frequency Demand Disconnection⁹ instructed by the ESO – definition in Grid Code OC6.6 	
<p>Category 2 - System Warning Alerts which are currently defined in the Grid Code or Distribution Code but for which there is no Grid Code (or BSC) requirement for these to be published.</p>	<ul style="list-style-type: none"> • Demand Control (including voltage reduction and demand disconnection) - DNO activated – definition in Grid Code OC6.4 and DOC6.6 • Grid Code Emergency Instruction (to DNO) – definition in Grid Code BC2.9.1.4 • Grid Code Emergency Instruction (to Generators & Demand – BCA, BEGA, & BELLA) - definition in Grid Code BC2.9.1.3 • Grid Code Emergency Instruction (to Interconnectors) – definition in Grid Code BC2.9.1.4 • Distribution Code Emergency Action defined in Distribution Code DOC7.6 • System NRAPM – definition in Grid Code BC1.5.5 • Localised NRAPM – definition in Grid Code BC1.5.5 • Cancellation of National Electricity Transmission System Warning – definition in Grid Code OC7.4.8.9 	<p>In Scope – requirement to be added to Grid Code</p> <p>System Warning Alerts to be published on BMRS</p>
<p>Category 3 - System Warning Alerts which are not currently published and are not referenced in Grid Code</p>	<ul style="list-style-type: none"> • Voltage Control DNO¹⁰ contracted with the ESO • STC Emergency Instruction (to TO) • ESEC implementation • Capacity Market Notification under EMR 	<p>In Scope – requirement to be added to Grid Code</p>

⁹ Following the 9 August 2019 power outage, this was published as a Demand Control Instruction rather than a System Warning. As part of the actions from the 9 August 2019 power outage, there is a proposal being discussed to publish as a System Warning, but this is yet to be agreed.

¹⁰ Voltage Control DNO¹⁰ notifications are outside the scope of the Grid Code¹⁰. The Proposer agreed he would look to review cross code implications from this modification and would raise any additional modifications required in other Codes. The Proposer confirmed a specific modification would be required in the BSC to cover the Voltage Control DNO notifications. Consideration needs to be given to how any System Warning Alerts would be issued across other Codes where relationships and contacts do not currently exist and whether existing arrangements could be utilised in this area.

	<ul style="list-style-type: none"> • Interconnector Emergency Assistance Requests • Demand Turn-Up¹¹ 	System Warning Alerts to be published on BMRS
Category 4 - System Warning Alerts that the Workgroup and the Proposer do not currently consider needed to be included within the GC0109 solution.	<ul style="list-style-type: none"> • Grid Code Emergency Instruction (to Suppliers and A.N. Others) • Fuel Security Code Direction to TSO, DNO or Generator 	Out of Scope

1a) Removal of 3 System Warning Alerts from the scope of GC0109

As part of their response to the Workgroup Consultation, the ESO Workgroup Member proposed the removal of 3 System Warning Alerts. Details are shown in the table below:

System Warning Alert	ESO Workgroup Member Rationale
Distribution Code Emergency Action – defined in Distribution Code DOC7.6	Mandatory publication of all DOC7.6 notifications to BMRS would be overly burdensome to both DNOs and the ESO ENCC. Could be 51,000+ notifications per year.
Voltage Control DNO¹² contracted with the ESO	This is a fast reserve service within the ESO's Platform for Ancillary Services ("PAS"), used for general balancing and dispatched in cost order. It is not an indication of an emergency condition/situation and publication would provide no value over and above notification of any other standard balancing action. Additionally, it is dispatched typically several times per day (1800+

¹¹ This was originally out of scope for GC0109; however, Workgroup on 12 November 2020 agreed to include within the GC0109 scope both because of the actions that the ESO took in summer 2020 due to Covid and the increasing amount of renewables on the NETS. Following further clarification from the ESO Workgroup Member at the Workgroup meeting on 22 January 2021, this was again removed from the scope of GC0109.

¹² Voltage Control DNO¹² notifications are outside the scope of the Grid Code¹². The Proposer agreed he would look to review cross code implications from this modification and would raise any additional modifications required in other Codes. The Proposer confirmed a specific modification would be required in the BSC to cover the Voltage Control DNO notifications. Consideration needs to be given to how any System Warning Alerts would be issued across other Codes where relationships and contacts do not currently exist and whether existing arrangements could be utilised in this area.

	times per year total) meaning publication would dilute the usefulness of BMRS.
Demand Turn Up	No longer used and it is not referenced in the Grid Code.

The Workgroup considered this further and ultimately agreed that all 3 of these System Warning Alerts would be removed from the GC0109 Original. Further details are set out in the table below:

System Warning Alert	Workgroup Comments
Voltage Control DNO¹³ contracted with the ESO	<p>The Workgroup noted that the overall intention was that issue of any System Warning Alerts would generally be infrequent (unless warranted by the emergency type situation at the time) so the Workgroup were surprised to hear the potential frequency (1800+ per annum) of these items. Some Workgroup members agreed with the ESO Workgroup Member that the frequency of these, if classified as System Warning Alerts, would dilute BMRS.</p> <p>After further discussion with the ESO representative it was understood that the 51,000+ notifications for the proposed “Distribution Code Emergency Action – defined in Distribution Code DOC7.6” System Warning Alert relate to communications between the Transmission Owners’ Control Rooms and the Transmission Network Control Centre and therefore would not be sent to the ENCC for onward publication. The DNO Workgroup Member also noted from his experience there is no expectation that any of these System Warning Alerts would be forwarded onto ENCC and noted that the only such alerts they would issue would be in accordance with OC6.4. This is already</p>
Distribution Code Emergency Action – defined in Distribution Code DOC7.6	

¹³ Voltage Control DNO¹³ notifications are outside the scope of the Grid Code¹³. The Proposer agreed he would look to review cross code implications from this modification and would raise any additional modifications required in other Codes. The Proposer confirmed a specific modification would be required in the BSC to cover the Voltage Control DNO notifications. Consideration needs to be given to how any System Warning Alerts would be issued across other Codes where relationships and contacts do not currently exist and whether existing arrangements could be utilised in this area.

	<p>covered by the proposed “Demand Control (including voltage reduction and demand disconnection) - DNO activated – definition in Grid Code OC6.4 and DOC6.6” System Warning Alert (so would be published as part of the proposed solution).</p> <p>Additionally, the 1800+ notifications for the proposed “Voltage Control DNO¹⁴ contracted with the ESO” System Warning Alert were related to ancillary services and therefore should be published elsewhere e.g. on the PAS. The Workgroup asked the ESO to consider publishing this and advise stakeholders of the location.</p>
<p>Demand Turn Up</p>	<p>The ESO Workgroup Member confirmed that Demand Turn Up was a separately contracted service which is no longer in use and there are no plans to use it and there is no reference to this within Grid Code either.</p> <p>The Workgroup asked specifically about Optional Downward Flexibility Management (ODFM) and the ESO Workgroup Member confirmed that the Demand Turn Up service was not related to references to demand turn up within ODFM. ESO do not instruct how ODFM is provided – ESO simply ask for X MWs and the service is provided by the contracted party through various means which may include export reduction or increasing demand (amongst other options).</p> <p>The Workgroup therefore agreed to removal from GC0109 of ‘Demand Turn up’ as this is no longer used by the ESO and it is not referenced in the Grid Code.</p>

Whilst the ESO Workgroup Member agreed that GC0109 increases transparency, they were concerned with the stated outcomes, value, and impact relating to these new System

¹⁴ Voltage Control DNO¹⁴ notifications are outside the scope of the Grid Code¹⁴. The Proposer agreed he would look to review cross code implications from this modification and would raise any additional modifications required in other Codes. The Proposer confirmed a specific modification would be required in the BSC to cover the Voltage Control DNO notifications. Consideration needs to be given to how any System Warning Alerts would be issued across other Codes where relationships and contacts do not currently exist and whether existing arrangements could be utilised in this area.

Warning Alerts and made comments in their Workgroup Consultation response on the value of publication of the following System Warning Alerts:

- STC Emergency Instruction to TO¹⁵;
- EMR Capacity Market Notification (as already published elsewhere); and
- Interconnector Emergency Assistance Requests¹⁶

However, the ESO Workgroup Member did not propose the removal of these System Warning Alerts from the scope of GC0109. The Proposer also noted the references to the benefits of transparency that the ESO has provided publicly (as shown in one of the Workgroup consultation responses) as providing evidence of the positive outcome, value and impact relating to the publication of the System Warning Alerts.

1c) Removing the need to specify BMRS – request for alternative raised, which became WAGCM1

The Workgroup agreed that the right platform for information to be published as required by GC0109 is BMRS. This is a central location that industry is familiar with and is easily accessible as well as being where System Warning Alerts and emergency instructions are currently published.

However, the ESO Workgroup Member did not feel that it added value to specify BMRS as they argued that the Grid Code has always been written to be non-system specific which makes it more resilient against future changes¹⁷. The majority of the Workgroup noted that one of the core principles of GC0109 is that stakeholders are looking for everything in one place and not specifically referring to BMRS could potentially add confusion for stakeholders and some Workgroup Members argued that if BMRS was ever replaced, it would be a simple change to amend the legal text.

However, the ESO Workgroup Member did not want to set what they consider to be a precedent by specifying BMRS in the legal text and therefore proposed an alternative to remove the specificity to BMRS and simply state that this “*will be published in a location agreed between **The Company and Users***”. Workgroup Members questioned how this location would be “agreed” and the ESO Workgroup Member stated that their intention is to use BMRS for the foreseeable future. They noted that, in the event that the location was proposed to be changed in the future, there would be wider consultation with the industry; however, some Workgroup Members noted this may not amount to ‘agreed’.

The Workgroup voted on whether or not to develop this request for alternative further by assessing whether or not this request for alternative would facilitate the Grid Code Objectives better than the GC0109 Original. **Only 2 of the 5 votes supported this request for alternative; however, the Chair argued that this could be more efficient than the GC0109 Original under Grid Code objective (e) and should be developed –**

¹⁵ The ESO Workgroup Member noted that these are issued ~ twice a month

¹⁶ The ESO Workgroup Member noted that these are issued ~ 10 times per year

¹⁷ e.g. the outage planning and data exchange system required by Grid Code OC2 describes the process but not the system. The system has changed at least 4 times in recent years (from TOPAM to TOGA to Ellipse/TOGA to TOGA replacement) but this has, because the Grid Code is not specific, not required further code changes.

this became WAGCM1. Further details on the WAGCM1 can be found in Annex 7 of this document. Full details of this vote can be found in Annex 8 of this document.

2) Publication on BMRS

The ESO Workgroup Member confirmed that there is no electronic messaging sent to the whole industry. In certain situations, the ESO may call an impacted User or DNO, then following the call with confirmation via standard fax message as soon as possible. However, other communications are issued direct to ELEXON, for onward publication on BMRS.

The Workgroup discussed whether the ESO should notify ELEXON or market participants directly. The Workgroup concluded that the ESO doesn't necessarily know who all market participants are and therefore discounted simply extending the existing 'mailing list' used for any electronic alerting that is already issued at the time of a particular Warning.

The Workgroup agreed that central to the solution to be implemented would be publishing information that could be picked up by any market participant

ELEXON explained how the BMRS already supports the publication and communication of the Balancing Mechanism and transmission system related information to market participants and could be used to support GC0109. In particular, the BMRS is the primary channel for providing operational data relating to Great Britain's Electricity Balancing and Settlement arrangements. It publishes a wide range of near real-time and historical data about the operation of the Balancing Mechanism and overall composition of the wholesale electricity market, ESO's planning and operational forecasts and REMIT. The BMRS is an open-data platform, available 24 hours a day and is free to use by any person¹⁸. The BMRS also supports data push and data pull services. Specifically, BMRS:

- Allows any user (which includes all Market Participants) to establish APIs that pull data from the BMRS (in XML format) and request that BMRS pushes data, e.g. through its TIBCO service (i.e. pre-determined messages sent by BMRS in flat text file).
- For System Warnings, ELEXON has an email notification service (i.e. as soon as a warning is published on BMRS an email is sent to all subscribers).

The Workgroup agreed that the simplest solution is to place these additional System Warning Alerts on BMRS

ELEXON summarised four options (the "Implementation Options") that could make use of existing or new BMRS functionality.

Options 1 and 2 make use of existing functionality and therefore no system changes would be needed. However, Options 3 and 4 would need system changes and would be assessed by ELEXON in parallel with their wider review of BMRS design and functionality. **The Workgroup agreed that only Options 1 and 2 should be considered for the GC0109 solution.** The Workgroup concluded that Options 3 and 4 should not be considered for the GC0109 solution as waiting for a currently unknown implementation date would introduce

¹⁸ Whilst BMRS can be easily viewed from most internet browsers, where a user wishes to pull data or have data pushed to it from BMRS, the participant would need to have its own system set up to receive this information and translate it into a readable format

further delay. Options 3 and 4 are though presented in this section for information to help the industry understand the possible future direction of travel.

Option 1 - Extend the existing BSC System Warnings interface between the ESO and BMRS

BSC Section Q6.1.14 already requires the ESO to send BMRS details of System Warnings (as defined in OC7). The ESO does this by using a predefined free-text 'System Warnings' file (defined in the [Interface Definition Document](#)). Once received, BMRS publishes the content of the System Warnings file on the [BMRS](#). This 'simple' option would rely on the ESO expanding its use of the BSC 'System Warnings' interface to report on all the different warnings, instructions and notices required by GC0109.

Pros	Cons
<ul style="list-style-type: none"> • An established means for the ESO to report OC7 System Warnings to BMRS. • The ESO already uses this to report events other than OC7 System Warnings, e.g. Emergency Instructions or system outages • Uses a simple free text file, which provides the ESO with the flexibility to populate it as appropriate • Although the BSC minimum requirement is to publish within 5 minutes, in practice, data sent to BMRS can be published quicker 	<ul style="list-style-type: none"> • System Warnings page on BMRS is basic – it only shows current or recent messages, which cannot be filtered, and does not provide a record of historical messages¹⁹ that can be searched • Delay between the point the ESO or Network Operator sends a warning, instruction or notice to its primary recipient and the point at which details of that warning, instruction or notice are sent to and then published by BMRS • BSC System Warnings interface only supports communication between the ESO and BMRS. A BSC Modification, BSC system changes and DNO system changes would be required to enable DNOs to use this interface too • BSC Modification and/or Change Proposal may be required to clarify the use of the BSC System Warnings interface, i.e. that it is used for more than OC7 System Warnings

Option 2 – Continue with existing REMIT interface, extending it to the system warnings etc.

The ELEXON Portal and BMRS support market participants' REMIT reporting by enabling them to send details of inside information to the BMRS using the [defined XML schemas](#). BMRS then publishes details of the REMIT inside information on its [REMIT webpage](#), which is accessible by anyone with an Internet connection. The ESO (and DNOs) could use the 'Other market information' XML schema to report on any of the warnings, notifications or instructions envisaged by GC0109.

¹⁹ Historical system warnings can be accessed by registering to use the ELEXON portal

Pros	Cons
<ul style="list-style-type: none"> • REMIT XML schemas are an established file format used by ESO and other market participants. DNOs may use the ELEXON Portal and the REMIT XML schemas too. • The REMIT XML schemas provide a structured file format, so REMIT messages contain certain defined data items, e.g. Market Participant, event status, event start date/time, event stop date/time, remarks. • The 'Remarks' data item is a 500-character free-text field that gives the sender the flexibility to provide information as appropriate. • The BMRS' REMIT webpage provides users with tools to review and filter current and historical events (the BMRS User Requirement Specification requires that inside information remains on the website for at least three years, though in practice details of events are published indefinitely). • The BSC requirement is to publish Inside Information Data as soon as reasonably practicable. In practice Inside Information Data sent to BMRS is published quickly – within seconds. • Users can already setup APIs to pull REMIT data published on BMRS, subscribe to receive TIBCO messages which push REMIT data to users or configure an RSS reader to view REMIT data which is also published as an RSS feed. • No BSC Changes required. 	<ul style="list-style-type: none"> • BMRS would publish the warnings, instructions and notices identified by the proposer amongst other REMIT messages rather than on a dedicated webpage • There would be a delay between the point ESO, or Network Operator sends a warning, instruction or notice to its primary recipient and the point at which details of that warning, instruction or notice are sent to and then published by BMRS.

Option 3 – Enhanced solution – update the BMRS’ System Warnings webpage or build a new dedicated webpage(s) that provides a record of current and historical warning, instructions and notices, and a searchability function

An enhanced solution could also establish new interfaces between ESO and BMRS, so different warnings, instructions and notices are reported using dedicated data flows. These dedicated data flows could ensure specific information is reported in respect of the different types of event or that the different events are published in dedicated tables or on separate, dedicated webpages.

Pros	Cons
<ul style="list-style-type: none"> • Would establish a dedicated webpage(s) on the BMRS for the warnings, notices and instructions covered by GC0109. • BMRS functionality could be tailored to support the specific needs of users interested in NG warnings, instructions and notices, e.g. <ul style="list-style-type: none"> ○ Specific requirements on how warnings, instructions or notices are published; ○ Specific retention and search features; and ○ New/updated notifications to users of when warnings, instructions or notices are published on the BMRS. 	<ul style="list-style-type: none"> • BSC Modification required. • Assuming the BSC Modification is approved, it would require BSC system changes to build new functionality and establish new or update existing interfaces between ESO and BMRS. • There would be a delay between the point ESO, or Network Operator sends a warning, instruction or notice to its primary recipient and the point at which details of that warning, instruction or notice are sent to and then published by BMRS. • BMRS’ REMIT reporting already provides comparable functionality.

Option 4 – Enhanced + solution – as per Option 3 and forward all notifications to industry before processing by ELEXON

Any warning, instruction or notice sent by ESO to BMRS is automatically copied at the point it is sent by ESO and delivered to market participants that had subscribed to receive the message.

Pros	Cons
<ul style="list-style-type: none"> • Would aim to deliver details of warnings, instructions and notices to market participants within similar timescales as those being delivered to BMRS. 	<ul style="list-style-type: none"> • BSC Modification required. • Assuming the BSC Modification is approved, it would require BSC system changes to build new functionality and establish new or update existing interfaces between ESO and BMRS. • There would be a delay between the point ESO, or Network Operator sends a warning, instruction or notice to its primary recipient and the point at which details of that warning, instruction or notice are sent to and then published by BMRS. • Would likely require market participants wanting to receive the message to establish (and possibly pay for) a dedicated 'gateway' to receive the messages.

The Workgroup have concluded that that Category 1, 2 and 3 System Warning Alerts (as set out in the "Grid Code changes" section of this document is in the scope of GC0109 and will need to be published. The Workgroup noted that the Category 1 System Warning Alerts are already published on BMRS.

Furthermore, of the four implementation options considered, only Options 1 and 2 will be in the scope of GC0109. The only differences are that for Option 2, the Category 2 and Category 3 System Warning Alerts would be published via REMIT rather than BMRS; and no BSC changes are expected for Option 2. The ELEXON representative on the Workgroup noted that REMIT provides additional functionality²⁰ to that provided by BMRS. However, the in interests of minimal change, there are no plans to move those Category 1 System Warning Alerts published on BMRS to REMIT.

The Workgroup Consultation responses did not provide any conclusive support either way for BMRS (Implementation Option 1) or REMIT (Implementation Option 2) and the Proposer re-iterated their view that the GC0109 Original would still seek to publish these new System Warning Alerts via BMRS as this (Option 1) provided the least change for market participants. The ELEXON representative on the Workgroup re-iterated their preference for REMIT (Option 2) and noted there is a view within ELEXON that adding these new System Warning Alerts to BMRS does alter the original purpose that BMRS was used for. Therefore, there may be a need for a BSC Modification to make explicit what BMRS is now used for. **However, the majority of the Workgroup agreed with the**

²⁰ e.g. REMIT has searchability functions

Proposer and felt that BMRS (Implementation Option 1) remained the best place to publish these new System Warning Alerts.

3) Timing

ESO have different requirements in terms of timing for such System Warning Alerts in the Grid Code and BSC. The table below illustrates this point:

Timing Requirements for ESO	Example
Issue details to ELEXON within a set period of time	Demand Control events must be reported within 15 minutes
Report as soon as practicable	Acceptances that are Emergency Instructions
At same time as another event	ESO should send details of System Warnings to ELEXON at the same time it issues the System Warning Alert to a User(s)

The Proposer noted that some of these communications may be verbal. However, the ESO Workgroup Member confirmed that all verbal communications it issues or receives in respect of System Warning Alerts are followed up with electronic notification.

In the BSC, ELEXON then has a general requirement to publish things it receives from the ESO on BMRS within 5 minutes (although in practice ELEXON publishes within seconds of receipt).

The Proposer is concerned about the time delay from the System Warning Alert taking place and the details of the System Warning Alerts being made available to all other market participants via BMRS. The Workgroup supported this view and concluded that all notifications should be made available to all market participants as soon as feasible. As BMRS is being used, there will inevitably be a short time lag between the System Warning Alert taking place, ESO issuing the System Warning Alert and ELEXON publishing on BMRS. **The Proposer was keen to have a maximum time window of 15 minutes for this process where ESO is issuing. The same time window will apply where the ESO is in receipt of such System Warning Alert.**

Legal text

The legal text for both the GC0109 Original and WAGCM1 can be found in Annex 4 of this document.

What is the impact of this change?

Transparency, EU Compliance and End Consumer Benefit

The Proposer believed that ensuring that there is open and transparent access for market participants to market relevant information will support both the GB market as well as cross-border trade within the (UK) Member State and with other Member States.

It will also minimise the risk that certain market participants (such as network operators) could trade on insider information ahead of other market participants.

In terms of transparency (as has been widely recognised and accepted by BEIS, Ofgem²¹, the ESO and stakeholders amongst others), improvements will lead to a much more efficient and competitive market which, will, in turn, achieve improved benefits, such as lower costs, for end consumers.

The Proposer and the majority of Workgroup Members considered that the benefits of ensuring and enhancing transparency of transmission system operations have already been well demonstrated by both ENTSOE²², ACER and the EU Commission in SOGL and noted there are associated legal compliance obligations on the ESO, DSOs and Ofgem to that effect. Since GC0109 was raised, clarification has been provided by the UK Government as to the enduring legal status of the European Network Codes etc., which have now been incorporated into UK law as Retained EU Law²³.

The ESO Workgroup Member noted that Increasing transparency of industry communications and ensuring a level commercial playing field nationally are fundamental aspects of ESO's ambitions. However, they added that wider consideration of value, and associated costs and impacts of specific System Warning Alerts are also important.

The Workgroup identified some additional specific benefits in publishing these System Warning Alerts:

- Publishing the System Warning Alerts will provide transparency for market participants and stakeholders so they have confidence that the GB NETS is operating robustly in the event of uncertain circumstances (which have warranted, or may warrant, the issuing of System Warning Alerts).

²¹ Ofgem, in their decision letter on not granting Urgent treatment for GC0109 specifically asked the ESO to explore whether there are ways to increase transparency around system warnings as soon as possible, and potentially outside of the industry codes process if appropriate

²² As ENTSOE noted, at the start of the development of the Network Codes:

“Transparency is essential to achieve well-functioning, efficient, liquid and competitive wholesale markets.” and “...transparency is the foundation for creating a level playing field thus increasing competition between different market players”

<https://www.entsoe.eu/2010/03/09/entso-e-publishes-transparency-policy/>

²³ Further information can be found in <https://www.legislation.gov.uk/eur/2019/943/contents> and https://www.legislation.gov.uk/ukxi/2020/96/pdfs/ukxiem_20200096_en.pdf

- There are benefits in making Users aware on a real-time basis as increasing awareness of the system situation may allow Users to support the system better and develop better protocols to respond to system warnings.
- Markets are more efficient with more information. All Market Participants will have access to this additional information in an equal and timely fashion. Such warnings / alerts can impact on market participants trading decisions.
- A Workgroup Member noted that some traders did not receive the EMR Capacity Market Notification from the ESO (in its role as Delivery Body for the Capacity Market) and it would be better if this information was available on a shared platform e.g. BMRS.

Process and System Changes/Implementation Costs

The level of system changes (arising from GC0109) will depend on which of the BMRS Implementation Options is taken forward. The Workgroup have agreed that only Options 1 and 2 are viable at this time and for both of these the level of system changes (and thus cost) is expected to be minimal (as it uses existing systems, procedures etc.).

ELEXON agreed with the Workgroup's view on Options 1 and 2; however, they indicated that a BSC change may be required to make clear which System Warning Alerts are being sent, how and when. The need for a BSC change may be negated if the ESO's legal text changes provide the clarity that the BSC change would seek to achieve. **The Workgroup concluded that Option 1 would be the solution for GC0109.**

ESO's ENCC expect that their costs of implementation will be minimal (~ £10K) as the proposed solution utilises existing tools and procedures that the ESO control room, as well as market participants, use today. The Workgroup also consider that the new System Warning Alerts proposed to be published would be infrequent especially as those that the ESO Workgroup member had identified as being more frequent are no longer within the scope of the GC0109 Original.

iDNOs

As part of the Terms of Reference, the Panel specifically asked the Workgroup to consider the implications on iDNOs. The Proposer noted that currently the iDNOs do not provide System Warning Alerts to the ESO and GC0109 does not seek to specifically obligate iDNOs. However, if in future the iDNOs did provide System Warning Alerts to the ESO (or the ESO issued them to the iDNOs), then the expectation would be that the ESO would issue these to ELEXON to publish via BMRS.

Interaction with GC0133

The Workgroup noted Ofgem's [send back letter](#) on GC0133, and specifically highlighted two points:

- Need more detailed information on how specific market participants could use the system state updates in practice, and a demonstration of what positive steps they could take upon receiving these updates; and
- It does not describe the underlying evidence on the benefits and/or costs e.g., whilst GC0133 refers to "improving wider industry communications", it does not demonstrate or provide evidence on how GC0133 would lead to those end benefits.

Noting the parallels with GC0133, the Workgroup considered these points for GC0109. The Workgroup assessed the value to the market of the publication of the System Warning Alerts being proposed to be implemented and as a result of this, and three potential 'System Warning Alerts' (initially identified in the GC0109 proposal) were removed from the scope of the GC0109 Original. The Workgroup did not undertake a full cost benefit analysis of all the proposed System Warning Alerts. However, given the benefits expressed above (and in some of the responses to the Workgroup Consultation), the low implementation costs and the low volumes associated with the other System Warning Alerts, the Workgroup were content that the remaining System Warning Alerts should be published.

Proposer's Assessment against Grid Code Objectives

Impact of the modification on the Applicable Objectives:	
Relevant Objective	Identified impact
(a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	Neutral
(b) Facilitating effective 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);	Positive - <i>The proposed solution will facilitate competition in the generation and supply of electricity ensuring that all market participants have equal and timely access to information of relevance to the market</i>
(c) Subject to sub-paragraphs (a) and (b), 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;	Neutral
(d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and	Positive - <i>To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and</i> <i>This proposal ensures openness and transparency around the Warnings etc.,</i>

	<p><i>that are available to market participants. Without full visibility of this information some market participants will be placed at a disadvantageous position compared to others.</i></p> <p><i>Furthermore, this modification ensures GB compliance with EU legislation in a timely manner and does so in a way that is not more stringent than EU law permits.</i></p>
<p>(e) To promote efficiency in the implementation and administration of the Grid Code arrangements</p>	<p>Positive - <i>The publication either in a single location (BMRS) or via a set means of electronic notification channel – such as email or text/SMS - of the various GB electricity Warnings or Notices or Alerts or Declarations or Instructions or Directions etc., issued by or to the Network Operator(s) will help market participants to find this important information, without the need to source it from differing locations within numerous websites / channels (for each of the parties concerned). Therefore, this proposal will promote the efficiency in the implementation and administration of the Grid Code arrangements.</i></p>

Workgroup Vote

The Workgroup met on 5 February 2021 to carry out their Workgroup vote. Six Workgroup Members voted, and the full Workgroup vote can be found in Annex 8. The tables below provide:

- a summary of how many Workgroup members believed the Original and the WAGCMs were better than the Baseline (the current Grid Code); and
- a summary of the Workgroup Members views on the best option to implement this change.

The Applicable Grid Code Objectives are:

Grid Code

- To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity
- Facilitating effective 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);
- 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;
- To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and
- To promote efficiency in the implementation and administration of the Grid Code arrangements

Assessment of the Original and WACM1 vs Baseline (the current Grid Code).

The Workgroup concluded unanimously that both the GC0109 Original and WAGCM1 better facilitated the Grid Code Objectives than the Baseline.

Option	Number of voters that voted this option as better than the Baseline
Original	6
WAGCM1	6

Best Option

Workgroup Member	Company	BEST Option?	Which objective(s) does the change better facilitate? (if baseline not applicable)
Garth Graham	SSE Generation Ltd.	Original	B and D
Matt Baller	National Grid ESO	WAGCM1	B, D and E
Joshua Logan	Drax Power Ltd	Original	B, D and E
Andrew McLeod	Northern Powergrid	WAGCM1	B, D and E
Graz Macdonald	Conrad Energy	Original	B and D
Lisa Waters	Waters Wye	Original	B, D and E

Code Administrator Consultation Summary

The Code Administrator Consultation was issued on the 10 March 2021 and closed on 12 April 2021 with 4 responses received. A summary of the responses can be found in the table below, and the full responses can be found in Annex 9.

Code Administrator Consultation summary	
Question	
Do you believe that the GC0109 Original proposal or WAGCM1 better facilitates the Applicable Objectives?	<p><u>Original</u></p> <p>All respondents saw merit in the Original proposal with 3 of the 4 respondents noting that additional transparency promotes efficiency in markets and supports competition. 1 of these respondents added this would mean benefits for end consumers.</p> <p>The other respondent on balance supports the principle of GC0109 but feels that WAGCM1 marginally better facilitates the applicable objectives overall but noted that the actual value of the additional information to be shared by the ESO, or what positive actions stakeholders can take from it, has not been specifically identified. They also note that of the 14 System Warning Alerts in scope, 8 are already published by the ESO on the BMRS system and believe the Original is negative against Objectives (d) and (e) as it mandates the use of BMRS.</p> <p><u>WAGCM1</u></p> <p>3 of the 4 respondents believe that WAGCM1 better facilitates the applicable objectives than the current Grid Code; however, 2 of these prefer the Original as specifies publication on BMRS and therefore provides greater certainty for stakeholders.</p> <p>The other respondent sees no merit in WAGCM1 (when compared with the Original) as this is based around the ESO's notion of 'BMRS' being a 'system' when it is a 'service'. Also, by not specifying BMRS, they suggest there could be stakeholder concern that ESO are not fully embracing the need for greater transparency.</p>
Do you support the proposed implementation approach?	Yes – all 4 responses

Do you have any other comments?	<p>Additional comments on the value of transparency and evidence of the disadvantageous position with the current Baseline – cited that non DNO market participants who can offer STOR services are at a disadvantageous position, compared to the DNOs (SSE Generation)</p> <p>Expressed frustration that a specific question on the benefits of the modification to market participants and stakeholders wasn't included in either of the consultations and that the scope of System Warning Alerts changed a lot during the development of GC0109. Also notes that 3 years have elapsed since this proposal was originally raised and seems to indicate less urgency than was at first ascribed to this proposal. (ESO)</p>
Legal text issues raised in the consultation	
No legal text issues raised	

Panel recommendation vote

The Panel will meet on the 29 April 2021 to carry out their recommendation vote.

When will this change take place?

Implementation date:

30 working days after Authority decision (on the basis that BMRS Implementation Option 1 is utilised).

This had changed from 10 working days as the Proposer noted the ESO Workgroup Member's concerns (raised as part of their Workgroup Consultation response) that an implementation of 10 working days from Ofgem decision was insufficient to allow for the ESO to update processes and train. The Proposer therefore agreed to amend the GC0109 Original to the ESO Workgroup Member's proposal of implementation 30 working days after Authority decision.

Date decision required by:

As soon as reasonably practicable.

Acronyms, key terms and reference material

Acronym / key term	Meaning
ACER	European Union Agency for the Cooperation of Energy Regulators
API	Application Programming Interface (a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service)
Baseline	The code/standard as it is currently
BC	Balancing Code (a section of the Grid Code)
BMRS	Balancing Mechanism Reporting Service
BSC	Balancing and Settlement Code
DNO	Distribution Network Operator
DSO	Distribution System Operator
EBGL	Electricity Balancing Guideline
EMR	Electricity Market Reform
ENCC	Electricity National Control Centre
ESEC	Electricity Supply Emergency Code
GB	Great Britain
GUI	Graphic User Interface
HRDR	High Risk of Demand Reduction
IDNO	Independent Distribution Network Operators
OC	Operating Code (a section of the Grid Code)
ODFM	Optional Downward Flexibility Management
OFTO	Offshore Transmission Owner
NETS	National Electricity Transmission System
NGET	National Grid Electricity Transmission
NRAPM	Negative Reserve Active Power Margin
PAS	Platform for Ancillary Services
REMIT	Regulation on Wholesale Energy Markets Integrity and Transparency
RSS	A type of web feed which allows users and applications to access updates to websites in a standardised, computer-readable format
TIBCO	A software company
TO	Transmission Owner
TSO	Transmission System Operator
WAGCM	Workgroup Alternative Grid Code Modification
XML	eXtensible Markup Language (This is designed to store and transport data)

Reference material:

None

Annexes

Annex	Information
Annex 1	GC0109 Proposal Form
Annex 2	Terms of Reference
Annex 3	System Warning Alerts
Annex 4	GC0109 Legal Text
Annex 5	GC0109 Workgroup Consultation summary
Annex 6	GC0109 Workgroup Consultation responses
Annex 7	GC0109 Workgroup Alternative Grid Code Modification 1 (WAGCM1)
Annex 8	GC0109 Workgroup Vote
Annex 9	GC0109 Code Administrator Consultation responses