

Final Modification Report			
<h2>GC0133:</h2> <h3>Timely informing of the GB NETS System State condition</h3> <p><b>Overview:</b> This Modification will require the Transmission System Operator (TSO) for GB, National Grid Electricity System Operator (NGESO), to inform, in a timely manner, the System State condition of the GB National Electricity Transmission System (NETS) to market participants.</p>	<h4>Modification process &amp; timetable</h4> <ol style="list-style-type: none"> <li>1 <b>Proposal Form</b> 14 October 2019</li> <li>2 <b>Code Administrator Consultation</b> 13 April 2021 – 13 July 2021</li> <li>3 <b>Draft Modification Report</b> 30 September 2021</li> <li>4 <b>Final Modification Report</b> 11 October 2021</li> <li>5 <b>Implementation</b> 10 working days following decision</li> </ol>		
<p><b>Have 5 minutes?</b> Read our <a href="#">Executive summary</a></p> <p><b>Have 20 minutes?</b> Read the full <a href="#">Final Modification Report</a></p> <p><b>Have 30 minutes?</b> Read the full Final Modification Report and Annexes.</p>			
<p><b>Status summary:</b> This report will be submitted to the Authority for them to decide whether this change should happen.</p>			
<p><b>Panel recommendation:</b> The Panel has recommended the baseline due to a split vote equally in favour of and against the Original proposal and in accordance with governance rule GR11.4 where the Independent Chair is required to use their casting vote to vote to retain the baseline.</p>			
<p><b>This modification is expected to have a: <span style="color: green;">Low impact:</span></b> on ESO (in terms of reporting the System State condition) and for Generators, Suppliers and other market participants (in terms of receiving, considering and taking internal action(s) arising from being notified of the System State condition).</p>			
<p><b>Modification drivers:</b> Efficiency, Transparency</p>			
<p><b>Governance route</b></p>	<p>Standard governance modification which was sent back by the Authority for refinement of the solution by a Workgroup.</p> <p>Please note: At the Grid Code Review Panel on 25 March 2021, it was agreed that this modification does not require a Workgroup Consultation or Workgroup Vote.</p>		
<p><b>Who can I talk to about the change?</b></p>	<table border="0"> <tr> <td style="vertical-align: top;"> <p><b>Proposer:</b> <a href="mailto:Garth.Graham@sse.com">Garth.Graham@sse.com</a> Tel: 01738 456000</p> </td> <td style="vertical-align: top;"> <p><b>Code Administrator Chair:</b> <a href="mailto:Nisar.Ahmed@nationalgrideso.com">Nisar.Ahmed@nationalgrideso.com</a> Tel: 07773 043068</p> </td> </tr> </table>	<p><b>Proposer:</b> <a href="mailto:Garth.Graham@sse.com">Garth.Graham@sse.com</a> Tel: 01738 456000</p>	<p><b>Code Administrator Chair:</b> <a href="mailto:Nisar.Ahmed@nationalgrideso.com">Nisar.Ahmed@nationalgrideso.com</a> Tel: 07773 043068</p>
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## Executive summary

The original GC0133 Final Modification Report received a send-back decision<sup>1</sup> by the Authority on 4 September 2020 due to there not being enough evidence to support whether the modification would impact relevant objectives (a) and (c) of the Grid Code. A Workgroup was subsequently set up as directed by the Grid Code Review Panel to address:

- The benefits of the modification to market participants and stakeholders; and
- The challenges to the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition.

## What is the issue?

The Proposer has set out that they have identified a defect, namely that the current condition of the 'System State'; which the ESO is required<sup>2</sup>, in real time operations, to monitor and determine for the GB NETS; is not currently visible to the wider industry<sup>3</sup>, such as Generators, Suppliers and other market participants (as well as BEIS, Ofgem, DNOs, Interconnectors, etc.) in a timely, and ongoing, manner.

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

**Proposer's solution:** In the Proposer's view, the Grid Code will need to be amended to include a simple requirement on the ESO to update the BMRS System Warning webpage<sup>4</sup> as soon as reasonably practical, using reasonable endeavours, whenever the GB NETS 'System State' condition changes, be that a degradation or an improvement in the 'System State'.

## Workgroup conclusions:

- A Workgroup convened on 09 March 2021 to discuss the benefits of the modification to market participants and stakeholders; and
- The challenges for the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition.

**Implementation date:** 10 working days following Authority decision.

## What is the impact if this change is made?

### Proposer's View

In the Proposer's view this proposal is expected to have a low impact on the ESO (in terms of reporting the 'System State' condition) and for Generators, Suppliers and other market participants (in terms of receiving, considering and taking internal action(s) arising from being notified of the 'System State' condition).

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<sup>1</sup> <https://www.nationalgrideso.com/document/176001/download>

<sup>2</sup> In accordance with Article 19(1), (2) and (3) of SOGL.

<sup>3</sup> Although it is provided, by the ESO, to other TSOs, in accordance with Article 19(4), Article 42(1)(e) and Article 152(3)(a) of SOGL.

<sup>4</sup> <https://test2.bmreports.com/bmrs/?q=transmission/systemwarning>

## Interactions

No impact has been identified to the Balancing and Settlement Code, however, it would require the ESO using the current BMRS channel to inform stakeholders of changes to the condition of the GB NETS 'System State' situation.

BMRS is a channel that is operated by Elexon through their website and is used for providing operational data relating to the GB Electricity Balancing and Settlement arrangements. It is used extensively by market participants to help make trading decisions and understanding market dynamics and acts as a prompt reporting platform as well as a means of accessing historic data. The main data categories of the website are as follows:

**Electricity Data Summary:** Includes 9 frequently requested reports including System Prices, Generation by Fuel Type and System Demand.

**REMIT:** Information provided by market participants to comply with Article 4 of Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) Regulation (EU) 1227/2011.

**Transparency:** Data for the Transparency Regulation (EU) 543/2013 originating from the Transmission company and market participants.

**Transmission:** Balancing Mechanism data from the Transmission company and data includes System Operator to System Operator Trades (SO-SO), SO-SO Trade Prices and System Warnings.

**Generation:** Generation data including Wind Forecast Out-turn, Generation Output Useable (forecast) and Generation by Fuel Type (actual).

**Demand:** Demand data including Demand Day Ahead (forecast), Initial Demand Out-turn (actual) and Peak Demand data.

**Balancing:** Data includes system prices, Balancing Mechanism Unit (BMU) data such as Final Physical Notification (FPN), Maximum Export/Import Limits (MIL/MEL), Bid Offer data.

**Panel recommendation:** The Panel has recommended the baseline due to a split vote equally in favour of and against the Original proposal and in accordance with governance rule GR11.4 where the Independent Chair is required to use their casting vote to vote to retain the baseline.

## What is the issue?

The Proposer has set out that they have identified a defect, namely that the current condition of the 'System State', which the ESO is required<sup>5</sup>, in real time operations, to monitor and determine for the GB NETS is not currently visible to the wider industry<sup>6</sup>,

<sup>5</sup> In accordance with Article 19(1), (2) and (3) of SOGL.

<sup>6</sup> Although it is provided, by the ESO, to other TSOs, in accordance with Article 19(4), Article 42(1)(e) and Article 152(3)(a) of SOGL.

such as Generators, Suppliers and other market participants (as well as BEIS, Ofgem, DNOs, Interconnectors, etc.) in a timely, and ongoing, manner.

In the Proposer's view, the Grid Code will need to be amended to include a simple requirement on the ESO to update the BMRS System Warning webpage<sup>7</sup> as soon as reasonably practical, using reasonable endeavours, whenever the GB NETS 'System State' condition changes, be that a degradation or an improvement in the 'System State'.

The ESO would be required to report, via an update on the BMRS System Warning webpage, any and all changes in any 'System State' of the GB NETS irrespective of whether it is an improving or degrading situation.

The definitions of the various System States etc., would be based on those found in Article 3 of the System Operation Guideline ('SOGL') (Regulation (EU) 2017/1485<sup>8</sup>).

For the avoidance of doubt, the definitions proposed to be used do not currently appear in the 'Glossary & Definitions'<sup>9</sup> of the Grid Code (so including them as new definitions, with this proposal, should not give rise to inconsistencies etc., with the baseline Grid Code).

The reasons for using these existing, well established and understood, definitions from SOGL for the purposes of this proposal are twofold:

- Firstly, they are the prevailing legal definitions (as the SOGL has already entered into effect) that the ESO use to operate the GB NETS.
- Secondly, as such, the ESO is very familiar with these terms and already uses them; in respect of the classification of the 'System State'<sup>10</sup>, when performing its operational security requirements of monitoring and determining the 'System State'<sup>11</sup> and taking the appropriate ESO action(s)<sup>12</sup> accordingly, as part of its day to day operation of the GB NETS, that they have been trained<sup>13</sup> to undertake.

This means that the change this proposal seeks to introduce into the Grid Code which is a requirement to

(1) report in a timely manner

(2) using the BMRS website (which the ESO already uses, on a day to day basis) any changes to the GB NETS operational 'System State' situation, will be a very simple one for the ESO to undertake as the ESO already currently performs these two constituent elements<sup>14</sup> (all be it separately at present).

## **Why change?**

In the Proposer's view there are three reasons for this change:

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<sup>7</sup> <https://test2.bmreports.com/bmrs/?q=transmission/systemwarning>

<sup>8</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R1485&from=EN>

<sup>9</sup> <https://www.nationalgrideso.com/document/33836/download>

<sup>10</sup> In accordance with Article 18 of SOGL.

<sup>11</sup> In accordance with Article 19 of SOGL.

<sup>12</sup> See, for example, Articles 20, 21, 22, 23, 27, 32, 35, 42, 56, 102, 103, 131, and 152 of SOGL.

<sup>13</sup> See, for example, Articles 58 and 63 of SOGL.

<sup>14</sup> (i) Monitoring operational the status of the system and (ii) using the BMRS reporting tool.

- This change would enable Generators, Suppliers and other market participants (as well as BEIS, Ofgem, DNOs, and Interconnectors etc.) to be constantly aware of the condition of the GB NETS ‘System State’ at any moment in time so that they can perform their work in a way that is conducive to supporting the ESO’s operation of the GB NETS.
- It will, by improving wider industry communications, result in the better operation of the GB NETS.
- This proposal seeks to *ensure and enhance the transparency and reliability of information on transmission system operation* (as required by Article 4(1)(g) and 4(2)(b) of SOGL).

On their own each of these reasons would justify why this change should be made – combined they make a compelling case why this simple and straightforward change should be made.

## What is the solution?

### Proposer’s solution

**[This section is sourced from the Proposal and are the views of the Proposer]**

The Grid Code would need to be amended to include a requirement on the ESO to update the BMRS System Warning webpage as soon as reasonably practical, using reasonable endeavours, whenever the GB NETS ‘System State’ condition changes. That change in the ‘System State’ condition would be in the form of either:

- (i) a degradation (such as might arise from a disturbance, going from ‘Normal State’ to ‘Alert State’ etc., or going from ‘Alert State’ to ‘Emergency State’ etc.,) in the ‘System State’; or
- (ii) an improvement (going from ‘Emergency State’ to ‘Alert State’ or ‘Alert State’ to ‘Normal State’ etc.,) in the ‘System State’.

For the avoidance of doubt, it is possible for a change in the ‘System State’ condition to occur such that it degrades (or improves) by ‘jumping’ one or more states, for example, straight from ‘Normal State’ to ‘Emergency State’ (thus ‘skipping’ the ‘Alert State’) or vice versa. Equally its possible for a state to improve, such as from ‘Blackout State’ to ‘Restoration State’, but then quickly degrade back, in this example, to ‘Blackout State’ from ‘Restoration State’.

The ESO would be required to report, via an update on the BMRS System Warning webpage, any and all changes in the ‘System State’ of the GB NETS irrespective of whether it is an improving or degrading situation such that the current condition of the ‘System State’ is known to relevant parties in a timely manner.

The BMRS reporting by the ESO would take the form either of:

- “There has been a degradation in the ‘System State’ from [X] State to [Y] State”; or
- “There has been an improvement in the ‘System State’ from [Y] State to [X] State”.

The ESO would be free, but not obliged, to add any additional commentary, about the change in the ‘System State’ condition, that they wished within their BMRS messaging. The ongoing classification of the ‘System State’ condition, by the ESO, for the purposes of reporting to GB stakeholders shall be in accordance with Article 18 of SOGL and this

shall be monitored and determined, by the ESO, in accordance with Article 19 of SOGL.

The Proposer recommended that the definitions of various system states, based on those found in Article 3 of SOGL, should be used in the Grid Code. concerns the ESO had in respect of

“(1)<sup>15</sup> **‘operational security’** means the transmission system's capability to retain a normal state or to return to a normal state as soon as possible, and which is characterised by operational security limits;”

“(5) **‘normal state’** means a situation in which the system is within operational security limits in the N-situation and after the occurrence of any contingency from the contingency list, taking into account the effect of the available remedial actions;”

“(17) **‘alert state’** means the system state in which the system is within operational security limits, but a contingency from the contingency list has been detected and in case of its occurrence the available remedial actions are not sufficient to keep the normal state;”

“(22) **‘blackout state’** means the system state in which the operation of part or all of the transmission system is terminated;”

“(31) **‘disturbance’** means an unplanned event that may cause the transmission system to divert from the normal state;”

“(36) **‘system state’** means the operational state of the transmission system in relation to the operational security limits which can be normal state, alert state, emergency state, blackout state and restoration state;”

“(37) **‘emergency state’** means the system state in which one or more operational security limits are violated;”

“(38) **‘restoration state’** means the system state in which the objective of all activities in the transmission system is to re-establish the system operation and maintain operational security after the blackout state or the emergency state;”

“(46) **‘local state’** means the qualification of an alert, emergency or blackout state when there is no risk of extension of the consequences outside of the control area including interconnectors connected to this control area;”

“(51) **‘operational security indicators’** means indicators used by TSOs to monitor the operational security in terms of system states as well as faults and disturbances influencing operational security;” and

“(62) **‘wide area state’** means the qualification of an alert state, emergency state or blackout state when there is a risk of propagation to the interconnected transmission systems.”

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<sup>15</sup> The numbering shown here is taken from the numbering used in Article 3 of SOGL.

For the avoidance of doubt, the definitions listed above do not currently appear in the ‘Glossary & Definitions<sup>16</sup>’ of the Grid Code (so including them as new definitions, with this proposal, should not give rise to inconsistencies etc., with the baseline version of the Grid Code).

Since meeting with the ESO representative to discuss the Legal Text, an amendment was made to the SOGL definition of *alert state* to refer to this as *awareness state* for the reasons set out below. The fact that these various ‘System States’ are important, in terms of the operation of the GB NETS, is clear from both their pre-eminence and repeated use, as well as the associated obligations, detailed elsewhere in SOGL, on the ESO<sup>17</sup> (and other parties) together with what is set out in the Emergency & Restoration Network Code<sup>18</sup> which states that:

*“Commission Regulation (EU) 2017/1485 [SOGL] sets out harmonised rules on system operation for transmission system operators (‘TSOs’), regional security coordinators (‘RSCs’), distribution system operators (‘DSOs’) and significant grid users (‘SGUs’). It identifies different critical system states (normal state, alert state, emergency state, blackout state and restoration).”<sup>19</sup> [emphasis added by underlining]*

If the ‘System State’ condition were not considered to be critical to the safe and secure operation of the system in both ordinary, day to day, situations or in exceptional circumstances then there would be (i) no need to explicitly set this out in a law, or (ii) define, and use, those terms repeatedly in the SOGL (and Emergency & Restoration Network Code) when the ESO performs the operational security requirements<sup>20</sup> needed to ensure the operational security<sup>21</sup> of the GB NETS.

## Revisions to Proposer’s Original Solution

The Proposer and the ESO representative met to discuss the Proposer’s Original solution (as set out above). While not implying that the ESO agreed with the modification or its solution as presented by the Proposer, legal text was developed embodying the principles of the proposal.

## Workgroup considerations

### The benefits of the modification to market participants and stakeholders

The workgroup discussed the benefits of the modification to market participants and stakeholders and concluded that:

- The beneficial impact of this change in terms of transparency of information on the operation of the transmission system (including, in this case, the System State) leads to deeper understanding and greater clarity of the operation of the transmission system, leading to better decision making, leading to a more efficient electricity market, leading to enhanced competition within the electricity market, leading to lower costs to consumers. The Proposer referred to many examples

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<sup>16</sup> <https://www.nationalgrideso.com/document/33836/download>

<sup>17</sup> See, for example, Articles 20, 21, 22, 23, 27, 32, 35, 42, 56, 102, 103, 131, and 152 of SOGL.

<sup>18</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R2196&from=EN>

<sup>19</sup> Recital (3), ERNC.

<sup>20</sup> See, for example, Part II, Title 1 of SOGL.

<sup>21</sup> See, for example, Part II of SOGL.

available in the current ESO Forward Plan which was published in 2020 and can be found [here](#).

- The publication of the System State, will provide stakeholders with a deeper understanding and hence greater clarity about the drivers of the ESO's operational decision making.
- Also, the benefit of GC0133, for the ESO directly, concerns avoiding the serious risk of materially breaching "insider trading" and market abuse legal requirements that are placed on those market participants, i.e. ESO, who have access to "inside information", such as the system state.
- It should also be noted that Recital (19) of Regulation 714/20092 set out that: "Equal access to information on the physical status and efficiency of the system is necessary to enable all market participants to assess the overall demand and supply situation and identify the reasons for movements in the wholesale price. This includes more precise information on electricity generation, supply and demand including forecasts, network and interconnection capacity, flows and maintenance, balancing and reserve capacity".

The workgroup noted that although a cost-benefit analysis is not required, the cost of implementing this change is relatively small - less than £10,000 as existing systems would be used. Publishing this data would allow stakeholders to make more informed decisions leading to better functioning markets leading to lower bills for the consumer.

A workgroup member stated that transparency was essential to achieve well-functioning, efficient, liquid and competitive wholesale markets. The Proposer further stated that transparency was the foundation for creating a level playing field thus increasing competition between different market players.

This was followed by a discussion on whether the 'alert state' should be included in the Legal Text for the modification. A workgroup member advised the workgroup that the key concerns expressed at the Grid Code Panel were that several Panel members were uneasy about publishing the 'alert' status. The system states were a requirement of the European System Operation Guideline and as drafted were intended to convey information between TSOs. In GB, the experience since SOGL implementation was that the 'alert' status had only happened when there was loss of availability of one of the interconnectors and therefore the ESO needed to share that with neighbouring Transmission System Operators (TSOs). Some of the Grid Code Panel members were uncomfortable about sharing this information, because they felt that making this information public could require sharing of commercially sensitive information. The workgroup agreed to consider some wording in the legal text, allowing the ESO flexibility to put in information if so required, address commercial confidentiality whilst limiting it to information that was not 'inside information', which should be in the public domain. When the Legal Text was being developed it was agreed that instead of 'alert state' this would be referred to as 'awareness state' when it was published on the BMRS website to try to manage any media messaging.

### **The challenges for the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition.**

In the view of the ESO, given that the proposal is that the ESO would only have to use "reasonable endeavours" it is difficult to see this information, on the system state,

providing any real time use. Given this, the ESO will need to put context to the change of state and it may, inadvertently, make commercially sensitive information publicly available.

In the view of the ESO and as set out in the European System Operation Guideline the system state was designed by ENTSO-E to allow sharing of operational information between neighbouring TSOs to aid coordinated system operation. This particularly applied to the 'Alert' status, which refers to a list of contingencies, and where no actions being required by stakeholders were ever envisaged.

Since the original raising of the modification, experience of the use of the European Awareness System and of the designation of system state by the ESO and other European TSOs has identified that the situations in which the 'Alert' status could be experienced would include the following in GB:

- Issuing of an Electricity Margin Notice where this was not cancelled by the period of shortfall as indicated
- A request for emergency assistance from an interconnector
- Loss of tools or systems, particularly with respect to balancing
- Identification of a N-1 contingency, in which case were a further specific event or fault to occur operational limits could be infringed

The ESO has reservations about whether any of this information would be useful to stakeholders (EMNs are already issued on BMRS) or whether sharing specific details of a next fault that could impact system security would be wise, and it is also possible that in providing an explanation the sharing of commercially sensitive would be required. However, in being required to share the system state it would be an expectation of stakeholders that an explanation of the reason for the system state would need to be given.

If codified, then the ESO would have no future choice over the sharing of system state information regardless of any ongoing consequences or of misreporting. This proposal is one of a number (GC0105, GC0107/113, GC0109) that seek to place reporting obligations on the ESO through the Grid Code. In the view of the ESO this changes the purpose of the Grid Code and places obligations on the ESO that could perhaps be made elsewhere within the regulatory framework.

However, the workgroup noted that the GC0133 legal text was deliberately written to ensure that there was no obligation on the ESO to provide any 'commentary' on why a system state change had occurred – therefore the ESO, in exercising 'good industry practice' would not be expected to be prone to misreporting. In simple terms, the GC0133 solution was just to report the system state change itself; and not the initial, or subsequent (after some investigation) reasoning/understanding by the ESO for the change (in the system state).

Initially, the Final Modification Report was issued to the Authority on 11 May 2020. The Authority provided their decision letter (Annex 3) for GC0133 on 04 September 2020 resulting in a send back with the following requirements:

Further analysis in respect of objectives (a) and (c) is included, setting out:

1. the benefits of the modification to market participants and stakeholders; and
2. the challenges to the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition.

A revised Draft Final Modification report was presented by the Code Administrator at the May 2021 Panel meeting to address the requirements in the decision letter from Ofgem. After careful consideration of all of the information the Panel decided that the report was deficient in addressing the requirements set out in Ofgem's send back letter (which can be found in Annex 3). The Panel instructed that the report was sent back to the workgroup to address the issues more comprehensively. The workgroup met on 22 June 2021 as requested at the May 2021 GCRP meeting to consider further aspects associated with Ofgem's two elements of concern in their send back letter along with a number of minor typographical changes to the modification report and legal text.

**The table below shows the benefits of the modification compared with the challenges of providing this information as was stipulated in the Ofgem send back letter.**

The Ofgem send back letter stated two key requirements which should be addressed in the FMR. These were:

- The benefits of the modification to market participants and stakeholders; and
- The challenges to the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition.

This table has been prepared in accordance with the recommendation from the Grid Code Review Panel that this information should be presented in a tabular format in a similar manner to how it was presented on GC0109.

<b>System state</b>	<b>Scenario</b>	<b>The benefits of the modification to market participants and stakeholders (Proposer's views)</b>	<b>The challenges to the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition</b>
Normal	-	Visibility that the system has returned to normal operation from one of the other system states and greater transparency – compared to the	None

		Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	
Awareness/Alert	EMN not cancelled by time of shortfall	None – EMNs are already published and updated on BMRS	None – EMNs are already published and updated on BMRS
	Request for emergency assistance from interconnector	Greater transparency – compared to the Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	Could be commercially sensitive. As a real example that has occurred, where an interconnector is instructed to return to their planned loading profile which has not been followed due to internal control issues
	Loss of tools or systems	Greater transparency – compared to the Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	The ESO already communicates with market participants using back-up systems where required due to loss of tools. Wider communication of a loss of tools or systems therefore while not serving a further positive purpose might indicate system weaknesses or areas in which commercial advantage could be exploited.
	N-1 contingency identified that could, if	Greater transparency – compared to the	Sharing this information is not

	it occurred, cause operational limits to be exceeded	Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	wise as it is highlighting a specific weakness on the system while not requiring any user action
Emergency	-	Aids communication during an emergency and ensures that the ESO has discharged its legal obligations from ERNC <sup>22</sup> Article 40(2) (c)(i), (d)(i) and (e)(i) plus greater transparency – compared to the Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	None – other than priorities during a crisis
Blackout	-	Aids communication during an emergency and ensures that the ESO has discharged its legal obligations from ERNC Article 40(2) <sup>23</sup> (c)(i), (d)(i) and (e)(i) plus greater transparency – compared to the	None – other than priorities during a crisis

<sup>22</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R2196&from=EN>

<sup>23</sup> "During the emergency, blackout or restoration states, each TSO shall provide in due time and for the purposes of system defence plan procedures and restoration plan procedures, the following information, where available to the TSO: ... the system state of its transmission system"

		Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	
Restoration	-	Aids communication during an emergency and ensures that the ESO has discharged its legal obligations from ERNC Article 40(2) (c)(i), (d)(i) and (e)(i) plus greater transparency – compared to the Baseline – from the shared and timely access of the system state to market participants, will increase the number and responsiveness of market participants, which will improve the security and efficiency of the system	None – other than priorities during a crisis

**Engagement with other stakeholders to develop benefits of the proposal and challenges to the ESO**

The workgroup sought to engage with the wider stakeholder community to understand the benefits that they envisaged arising from the proposal, including two public consultations held during the development of the modification. However, further evidence of the merits or otherwise of the proposal was not forthcoming.

**Access to the European Awareness System**

The ESO currently records the system state in an ENTSO-E platform, the European Awareness System (EAS). The requirement for the ESO to record the system state in the EAS was included in SOGL Article 19, paragraph 4. However, the Statutory Instrument

that translated SOGL into retained GB law does not include SOGL Article 19, paragraph 4 as being retained GB law. This deletion was made because now that GB has left the EU and the ESO will be required to leave ENTSO-E it is unclear whether the ESO will be able to access this ENTSO-E platform leaving arrangements to report the GB system state in the future very unclear.

## Legal text

The Proposer recommended that the definitions of various system states, based on those found in Article 3 of SOGL, should be used in the Grid Code. Since meeting with the ESO representative to discuss the Legal text, the amendments to the Legal text can be found in Annex 5.

## What is the impact of this change?

### Proposer's view

Proposer's assessment against Grid Code 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	Positive
(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);	Neutral
(c) 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;	Positive
(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
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	Neutral

In the Proposer's view this proposal is expected to have a low impact on the ESO (in terms of reporting the 'System State' condition) and for Generators, Suppliers and other market participants (in terms of receiving, considering and taking internal action(s) arising from being notified of the 'System State' condition).

In terms of the ESO this is because they already:

- (i) classify, monitor and determine the 'System State' on a real time basis, as part of their operation of the GB NETS; and
- (ii) provide information about the GB NETS, such as System Warnings, using the existing BMRS website tool.

As a result, in respect of this proposal, there is no new task for the ESO to perform in terms of (i). However, there is a new task, in terms of (ii), for them to perform with this proposal, which is to simply update the BMRS System Warning webpage with any and all changes (degradations or improvements) to the 'System State'.

This proposal therefore has a Low Impact on the ESO and should not, for example, require new IT system solutions to be procured / tested/ installed. In terms of Generators, Suppliers and other market participants (as well as BEIS, Ofgem, DNOs and Interconnectors etc.) they will need to be cognisant of the possibility of amending their internal procedures in terms of considering the information they receive, via the BMRS, on the 'System State' condition and take whatever appropriate action they deem fit to act on that information in a manner conducive to supporting the ESO's operation of the GB NETS.

As these parties already have access to and use the BMRS website, including the System Warning webpage, for this general purpose, this proposal therefore has a Low Impact on Generators, Suppliers and other market participants (as well as BEIS, Ofgem, DNOs and Interconnectors etc.) and should not, for example, require new IT system solutions to be procured / tested/ installed.

### **ESO's View**

This assessment of the impact of the modification is not shared by the ESO. The very high-level information already shared in the ENTSO-E Awareness System in fulfilment of the requirements of the System Operation Guideline is insufficient to remove the risk of misinterpretation of the information if it was made publically available. Also, in terms of the impact on other market participants, whilst the ESO agrees that this is low it also highlights that it is unclear what the purpose of sharing this information is, or what positive actions may be taken by market participants as a result given that the system state was designed to aid operational coordination between TSOs only.

### **Consumer Impacts**

#### **Proposer's View**

In the view of the Proposer, this proposal will not have any detrimental impact on consumers and by improving the communication processes and procedures for the wider industry regarding the ongoing operation of the GB NETS this proposal will lead to a more secure system which, in turn, will benefit consumers directly.

### **ESO's View**

In the view of the ESO, to share, fully explain and deal with any resulting dialogue about the system state will be a significant and ongoing task which has little clear benefit. It therefore represents an additional cost that ultimately will be borne by consumers.

### **Code Administrator consultation summary**

The Code Administrator Consultation was issued on the 13 April 2021 and closed 13 May 2021 and received 3 responses from National Grid ESO, Scottish Power Renewables and SSE Generation. These responses can be found in Annex 4.

#### **Code Administrator Consultation summary**

##### **Question**

Do you believe that the GC0133 Original Proposal better facilitates the Grid Code Objectives?

Two out of the three respondents supported the Original proposal in that it better facilitates the Grid Code objectives.

These two respondents believe that if market participants are constantly informed of the GB NETS 'System State' condition they can then work more efficiently to support the ESO's operation of the NETS based on the provision of reliant and up-to-date information.

They also believe that this will create additional transparency for the whole industry and result in enhanced operations of the GB NETS as is required by Article 4(1)(g) and 4(2)(b) of the System Operation Guidelines), allowing for improved security and efficiency of the overall system.

One respondent believes that the ESO itself has full access to all this information on the System State: therefore, it is not in a strong position to judge what value market participants, stakeholders and end consumers will obtain from greater transparency of this information in a timely manner.

The respondent believes that the changes to the System State will result in the following benefits:-

- (i) leads to deeper understanding and greater clarity of the operation of the transmission system;
- (ii) leads to better decision making;
- (iii) leads to a more efficient electricity market;
- (iv) leads to enhanced competition within the electricity market; and
- (v) leads to lower costs to consumers.

One of the three respondents do not believe that this proposal better facilitates the Grid Code objectives.

Their rationale is that the work carried out by the workgroup does not address the requirements as listed below in the send back letter from the Authority:

- The benefits of the modification to market participants and stakeholders; and
- The challenges to the ESO of providing this information, including the challenges of publishing the reasons for the changes of system state condition. They feel that although a further discussion of the merits of the solution resting on greater transparency took place it was without determining specific benefits.

The respondent believes that it is not clear what stakeholders will do with the system state information or what positive steps, of benefit to the consumer, they would be able to take upon receiving it.

The modification is neutral against objectives (a) and (b) in neither facilitating development of the system nor competition in generation.

Better communication during an emergency could highlight a positive against (c) in enhancing security of the system, but is neutral for the modification as a whole. As a benefit of this modification has not been identified then it is negative against (d) in ultimately costing consumers money and impacting efficiency, and

	<p>finally it is neutral against (e) in having no impact on code administration arrangements.</p>
<p>Do you support the proposed implementation approach?</p>	<p>One of the three respondents believes that an implementation date of around 6 months after the code modification is approved would give the ESO time to develop, with stakeholders, the right messaging required to support the basic system state information, to make sure that this was suitable, and to limit the risk of misinterpretation.</p> <p>Given that the system state is currently monitored and updated by the ESO through the ENTSO-E Awareness System which is a platform for information sharing with other TSOs used within the ESO Control Room. Therefore one respondent feels that continually determining the state of the GB system and updating the BMRS accordingly are both tasks that are currently undertaken today by the ESO, there would be no need for either a transition period or a prolonged implementation period.</p> <p>The third respondent supported the implementation approach.</p>
<p>Do you have any other comments?</p>	<p>There is concern from one respondent on the potential for media misreporting of the system state or for incorrect conclusions to be drawn from this, particularly when the system is in 'alert' state.</p> <p>One respondent believes that the specific requirements from the Authority send back letter have been addressed through comments in the modification report and in the additional comments provided in the consultation response. These address in detail the benefits of the modification to market participants and stakeholders and also the challenges to the ESO of providing this information,</p>
<p><b>Legal text issues raised in the consultation</b></p>	
<p>No issues raised.</p>	

## **Panel recommendation**

The Panel first met on the 27 May 2021 to carry out their recommendation vote. The Panel decided that the benefits and challenges as outlined in the send back letter from Ofgem had not been satisfactorily addressed and there were also additional queries from Panel members to be addressed in the draft final modification report. The DFMR was sent back to the workgroup at the May 2021 Panel, for these issues to be addressed.

The Panel met on 30 September 2021 to carry out their recommendation vote following the amended draft final modification report.

They assessed whether a change should be made to the Grid Code by assessing the proposed change and any alternatives against the Applicable Objectives.

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Alan Creighton, Network Operator Representative**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Original	No	Neutral	No	No	Neutral	No
<b>Voting Statement</b>						
The proposed change to the Grid Code is to enhance Users awareness of incidents on the transmission system and enable them to be better prepared to respond to any specific instructions received from NGENSO Control Engineers. However, NGENSO has expressed concern that publishing the system state only could have unintended consequences and the workgroup report doesn't appear to include any tangible evidence of any benefits.						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Alastair Frew, Generator**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Original	Neutral	Neutral	Yes	Yes	Neutral	Yes
<b>Voting Statement</b>						
The original allows all parties to see the ESO current opinion of the state of the GB as required by Commission Regulation (EU) 2017/1485 [SOGL]						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Christopher Smith, Offshore Transmission Licensee**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)

Original	Yes	Neutral	Yes	Neutral	Yes	Yes
Voting Statement						
None						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Guy Nicholson, Generator [Not present at the Meeting and no alternate]**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Voting Statement						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **John Harrower, Generator**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Original	Yes	Neutral	Yes	Yes	Neutral	Yes
Voting Statement						
This modification improves transparency of the operation of the NETS and allows market participants to better support operation of the transmission system.						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Rob Wilson, National Grid ESO**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Original	Neutral	Neutral	Neutral	No	Neutral	No
Voting Statement						
[during the progress of this modification GB has left the EU and consequently the ESO will leave ENTSO-E, and more experience has been gained by the ESO in working with the 'system state' hence this statement updates the ESO's consultation responses]						
As the ESO has been unable to raise an alternative to this modification the content has to be taken as a whole which is unfortunate. Sharing information on the emergency, blackout and restoration system states could be helpful. The 'alert' status though was designed only to help coordination between TSOs by alerting them to potential operational risks that crossed borders. No action whatsoever is required from stakeholders. To avoid consternation sharing the 'alert' status would have to be accompanied by an explanation; and some of the reasons to enter this, which include identification of a 'next fault' situation that could cause operational limits to be exceeded or a loss of tools or systems, would require the ESO to share information that would cause security risks and could be exploited for commercial gain. No evidence of the benefit of sharing this has been produced and therefore the reasons for						

the Ofgem send back have not been addressed. It is likely also that the ESO sharing that the GB system has moved into 'alert' status would be picked up by the media with the inherent risk of misreporting information that was only ever meant to aid coordinated system operation with European TSOs.

If we were able to recommend an outcome it would be either that the modification was rejected or that it should be sent back with a specific requirement to remove the 'alert' status. If approved though, we would ask if a 3 month window to implementation could be allowed to give time to update operational procedures and agree messaging.

As a final point, we would note that the requirement for the ESO to record the system state on the European Awareness System has been removed in the SI that translated the SO Guideline into retained GB law (as this has deleted SOGL article 19 paragraph 4). This deletion was made because it is unclear if the ESO in the future will be able to access this ENTSO-E platform leaving arrangements to report the GB system state in the future very unclear.

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Robert Longden, Supplier [Not present at the Meeting and no alternate]**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Voting Statement						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Roddy Wilson, Onshore Transmission Licensee**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Original	Neutral	Neutral	Yes	Neutral	No	No
Voting Statement						
Whilst supporting efforts to aid 'transparency' of Grid Code operations, we remain unconvinced that this proposal compellingly explains a wider industry benefit of applying this change. There is already system reporting comms undertaken by the ESO today, and we believe the ESO is constantly seeking to improve this, so they are best placed to manage this activity. We therefore advocate for the baseline. We consider the DFMR has addressed the Authority's send back decision.						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Sigrid Bolik, Generator**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)

Original	Yes	Neutral	Yes	Neutral	Neutral	Yes
Voting Statement						

**Vote 1:** Does the Original facilitate the objectives better than the Baseline?

Panel Member: **Graeme Vincent (Alternate for Steve Cox), Network Operator Representative**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Better facilitates AO (e)?	Overall (Y/N)
Original	No	Neutral	No	No	Neutral	No
Voting Statement						
Whilst I acknowledge the aim of the modification is to increase transparency in the operation of the transmission network I note the concerns expressed by the ESO of the possibilities for misinterpretation should the information be published. I also note that the send back letter also requested that the benefits of the modification to industry participants be demonstrated and I am not convinced that these have been sufficiently well evidenced or quantified within the report to address the points raised in the letter.						

**Vote 2 –** Which option is the best?

Panel Member	BEST Option?
Alan Creighton	Baseline
Alastair Frew	Original
Christopher Smith	Original
John Harrower	Original
Rob Wilson	Baseline
Roddy Wilson	Baseline
Sigrid Bolik	Original
Graeme Vincent (Alternate for Steve Cox)	Baseline

### Panel conclusion

The Panel has recommended the baseline due to a split vote equally in favour of and against the Original proposal and in accordance with governance rule GR11.4 where the Independent Chair is required to use their casting vote to vote to retain the baseline.

## When will this change take place?

### Implementation date

This Modification should be implemented 10 working days following a decision from the Authority.

### Date decision required by

The decision is required in Q3 2021.

### Implementation approach

No system changes are required for this modification. The modification requires the ESO to publish information onto a webpage.

## Interactions

- |   |   |  |   |
|---|---|--|---|
| <input type="checkbox"/> Grid Code              | <input checked="" type="checkbox"/> BSC                     | <input type="checkbox"/> STC                 | <input type="checkbox"/> SQSS             |
| <input type="checkbox"/> European Network Codes | <input type="checkbox"/> EBGL Article 18 T&Cs <sup>24</sup> | <input type="checkbox"/> Other modifications | <input checked="" type="checkbox"/> Other |

The BSC deals with the BMRS. We do not think that this proposal will directly impact on the BSC itself. However, it would see the ESO using the current BMRS System Warning page to inform stakeholders of changes to the condition of the GB NETS 'System State' situation.

## Acronyms, key terms and reference material

Acronym / key term	Meaning
BEIS	Business, Energy & Industrial Strategy
BMRS	Balancing Mechanism Reporting Service
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
DNO	Distribution Network Operator
EBGL	Electricity Balancing Guideline
EMN	Electricity Margin Notice
ENTSO-E	European Network of Transmission System Operators for Electricity
ESO	Electricity System Operator
NETS	National Electricity Transmission System
NGESO	National Grid Electricity System Operator
RSC	Regional Security Co-ordinators
SGU	Significant Grid User
SOGL	System Operator Guideline
SSE	Scottish and Southern Energy
T&Cs	Terms and Conditions
TSO	Transmission System Operator

<sup>24</sup> If the modification has an impact on Article 18 T&Cs, it will need to follow the process set out in Article 18 of the European Electricity Balancing Guideline (EBGL – EU Regulation 2017/2195) – the main aspect of this is that the modification will need to be consulted on for 1 month in the Code Administrator Consultation phase. N.B. This will also satisfy the requirements of the NCER process.

**Reference material**

- [“System Operation Guideline” \(‘SOGL’\) \(Regulation \(EU\) 2017/1485<sup>25</sup>\) dated 2<sup>nd</sup> August 2017](#)

**Annexes**

Annex	Information
Annex 1	Proposal form
Annex 2	Terms of reference
Annex 3	Send back letter from the Authority
Annex 4	Code Administrator Responses
Annex 5	Legal Text

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<sup>25</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R1485&from=EN>