Final Modification Report

GC0134:

Removing the telephony requirements for small, distributed and aggregated market participants who are active in the Balancing Mechanism

Overview: Participation in the Balancing Market currently requires participants to operate telephony 24 hours every day. The proposal is to allow small users below a threshold to be exempt from the telephony requirement outside of office hours, in order to allow greater participation while minimising risks to system security.

Modification process & timetable

1. **Proposal Form**
   14 October 2019
2. **Workgroup Consultation**
   12 May 2020 - 04 June 2020
3. **Workgroup Report**
   29 April 2021
4. **Code Administrator Consultation**
   07 May 2021 - 07 June 2021
5. **Draft Modification Report**
   24 June 2021
6. **Final Modification Report**
   06 July 2021
7. **Implementation**
   10 Working days from Authority Decision

Have 5 minutes? Read our Executive summary

Have 20 minutes? Read the full Final Modification Report

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

Status summary: This report is to be submitted to the Authority for them to decide whether this change should happen.

Panel recommendation: The Panel has recommended unanimously/by majority that the Proposer's solution is implemented.

This modification is expected to have a: High impact on: Aggregators, DG
Medium impact on: ENCC
Low impact on: Existing BM participants

Modification drivers: Efficiency

Governance route	Standard Governance Route - This modification will be assessed by a Workgroup and Ofgem will make the decision on whether it should be implemented	
Who can I talk to about the change?	**Proposer:** Peter Dennis peter.dennis@ecotricity.co.uk	**Code Administrator Chair**: Nisar Ahmed nisar.ahmed@nationalgrideso.com Phone: 07773043068

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Executive summary

The aim of this proposal is to remove a barrier to entry to allow additional participants to access and be responsive to the Balancing Market.

Current requirements include having a telephone connection to the Electricity National Control Centre, operated 24/7. For potential participants this (in the view of the Proposer and the majority of the Workgroup members) is an onerous and costly requirement to begin operating outside of UK office hours and hence a barrier to access. Telephone despatch is part of the NGESO Contingency Despatch process, utilised under two distinct conditions:

I. Planned BM System outages.
II. Unplanned IT/System failures.

Under these conditions, the telephone is used to maintain the integrity of the Balancing Mechanism and security of supply.
An exemption for small users, defined by a threshold, is proposed to reduce the costly start-up burden.
The benefit to the ENCC of allowing entry of new participants is greater visibility of distributed units and the ability to dispatch these units via conventional EDL or the Wider Access API.
The risks are that: i) existing participants eligible for the exemption may choose to abandon their 24 hour telephony, thereby somewhat reducing system resilience. ii) NGESO will not be able to call-off balancing services from these participants during any periods outside the hours of 0800 – 1800 each day where IT systems are compromised. These risks are mitigated by setting the exemption threshold to a level low enough for the loss to be negligible.
Overall, the result (in the view of the Proposer and the majority of the Workgroup members) should be a net increase in visibility and control for the ENCC plus additional competition entering the BM.

What is the issue?

Staffing a 24/7 control point is an onerous requirement for BMUs as small as 1MW. Wider Access has created the option for units as small as 1MW to participate in the Balancing Market. If the change is not made, the barrier created by the current telephony requirements makes it less likely such small units will be able to afford to participate independently and may discourage many from doing so at all. The result of this may be that a proportion of distributed generation could remain outside of the control of the ENCC and not supply operational metering.

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

Proposer's solution:
In the Proposer's view there are two main parts to the solution:

1. **System Telephony can be provided via mobile phone / internet-based phone**
    - The System Telephony definition is changed so that a BM participant that is obliged to have System Telephony can use a mobile phone or internet phone to fulfil this requirement. There would be no change to Control Telephony requirements.

2. **24/7 requirement no longer applies below certain MW thresholds**

   - BM participants with a registered capacity of below 50MW per Control Point, or below 10MW per site (where a site is not part of a Virtual Lead Party) are not required to have a Control Point staffed at all times. It must be staffed between the hours of 0800 to 1800 each day.
   - At times when EDL/API communications between ESO and the BM participant are unavailable or not functioning and the BM participant cannot be contacted via telephone, they must adhere to their declared PN at the last gate closure, which is already a requirement of Grid Code as it stands.

Implementation date: In support of the Wider Access project, it is the Proposer's aim to implement the change as soon as possible and therefore to keep the change simple. An exemption in a similar format to that in CC.7.9 could be a suitable example to follow when drafting the legal text.

Implementation is planned for summer 2021.

Summary of potential alternative solution(s)
No alternatives were raised for this Grid Code modification through the workgroup stage.

Workgroup conclusions: The Workgroup concluded by majority that the Original better facilitated the Applicable Objectives than the Baseline.

Panel recommendation: The Panel has recommended/determined unanimously/by majority that the Proposer's solution is implemented. (TBC post Panel)

What is the impact if this change is made?

In the Proposer's view the intended impact would bring additional capacity into the control of the BM and visibility of operational metering. This would reduce the potential errors in forecasting distributed generation and allow greater control and visibility for the ENCC.
The unintended consequences are i) the potential for existing participants to abandon their 24/7 telephony in favour of only using electronic methods of communication outside of office hours. ii) Small participants would be unable to be despatched during any IT outage or system failure, thereby reducing resilience in the short term. However, they should be weighed against the above benefits.
Who will it impact?

- ENCC – Greater visibility of distributed generation, control over more units, risk of reduced control over some existing participants.
- ENCC – reduced access to Balancing Services during IT outages or failures.
- BM Participants – Option of ceasing 24/7 telephony if below threshold.
- BM Participants – loss of revenue during IT outages or failures if ceasing 24/7 telephony.
- New entrants to the BM – Lower barriers to entry.

Interactions

☐Grid Code	☐BSC	☐STC	☐SQSS
☐European Network Codes	☐ EBGL Article 18 T&Cs[1]	☐Other modifications	☐Other

This modification does not impact any other codes.

What is the issue?

Connection Code CC.6.5 requires all Balancing Mechanism (BM) participants to install control telephony between their control point and the ENCC. This can be a significant cost burden when applied to the small, distributed and aggregated participants expected to join as part of Wider Access to the BM. CC 6.5 as currently drafted is a barrier to market entry for these smaller market participants.

Why change?

Manual 24-hour operation of the telephone would require the introduction of additional shift workers for any organisation that does not currently operate 24/7. This would substantially increase in cost for a system that is unlikely to see regular use and of limited direct benefit to the BM participant. It may be preferable for smaller users to be despatched by electronic methods only, accepting that potential revenue will be lost during periods of IT outages or failures.

In the Proposer's view lowering this barrier will facilitate additional capacity of distributed generation to provide operational data and join the BM to be dispatched according to system needs.

What is the solution?

Proposer's solution

In the Proposer's view there are two main parts to the solutions:

1. System Telephony can be provided via mobile phone / internet-based phone

- The System Telephony definition to be changed so that a BM participant that is obliged to have System Telephony can use a mobile phone or internet phone to fulfil this requirement. There would be no change to Control Telephony requirements.

2. 24/7 requirement no longer applies below certain MW thresholds

- BM participants with a registered capacity of below 50MW per Control Point, or below 10MW per site (where a site is not part of a Virtual Lead Party) are not required to have a Control Point staffed at all times. It must be staffed between the hours of 0800 to 1800 each day.

[1] 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.

- At times when EDL/API communications between ESO and the BM participant are unavailable or not functioning and the BM participant cannot be contacted via telephone, they must adhere to their declared PN at the last gate closure, which is already a requirement of Grid Code as it stands.

Workgroup considerations

The Workgroup convened ten 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 Grid Code Objectives.

The Workgroup discussed several elements of the proposal as follows:

- What would the threshold be?
    - It was suggested that this should be aligned to existing thresholds within the industry. The aim here would be to have it sufficiently high to bring in meaningful volumes of distributed generation without presenting a significant risk to system security. This proposal suggests 10MW per site and 50MW per control point as thresholds that could be acceptable.
- Who would the threshold apply to?
    - The two areas of concern for the ESO here would be to avoid sizeable capacity being out of contact and to limit how much of it could be concentrated in any one part of the network.
    - Applying it to BMUs was considered but this doesn't provide sufficient information on where a site is within the network as BMUs can be spread over several GSPs
    - An individual site threshold of up to 10MWs aligns with licence exemptible generation thresholds.
    - An up to 50MW per control point limit allows aggregators to become established before requiring 24/7 telephony.
- What rules would apply for exemption?
    - Participants below the threshold would not be required to operate telephony at their control point outside of UK office hours, but in this case would be accepting that they can only be called via EDL at those times.
    - What backup measures could be imposed for contingency operation? – BAU operation during planned and unplanned outage of electronic communication: Ultimately the threshold should be set so that such communication outages are of negligible impact.
    - In these cases, it could be argued that it's a poor use of ENCC engineer's time to be manually dispatching sub 10MW plant. Effective mitigations here could be:
        - implementation of automated dispatch for small control points
        - minimise the duration and frequency of planned outages
        - increased resilience and redundancy of electronic communication
- What backup measures could be imposed for contingency operation? – Emergency / Safety situations:

- There was a precedent set by CC.7.9 (and ECC.7.9) in which compliance with BC2 was not required for specified Embedded Power Stations. In these cases, the control point is only manned between the hours of 0800 and 1800 each day. This proposal is recommending similar treatment for participants that fall below the 10MW or 50MW threshold to be exempt from the BC2.9 emergency provisions outside of office hours.
- Alternatively, the workgroup discussed the option of using techniques similar to Telecommand for participants that fall below the 10MW or 50MW threshold to control the plant under emergency conditions outside of office hours. However, it was agreed by the workgroup that current technology and operational arrangements for providing such a solution would be unsuitable, but this may change in the future.

- What is the impact on existing providers?
  - The danger to network resilience here would be if a substantial number of 10MW sites or 50MW control points that currently operate 24/7 telephony opt for office hours only telephony operation as a result of this change.
- How would the solution be presented in Grid Code and associated documents?
  - An amendment to the CC.6.5 clause outlining the thresholds for exemption and the expectation for telephony to only be required in office hours.

Workgroup Consultation Summary

The Workgroup consultation was issued on 12 May 2020 and closed on 03 June 2020. We received a total of four responses which can be found in Annex 3.
Respondents were by majority supportive of the proposed changes with key points as follows:

- Regular review is required and should consider system security risk and interactivity with GC0143
- Cost benefit analysis should look at the benefits of removing a barrier to entry versus the risk of some BM participants being uncontactable outside office hours at times when the electronic communication fails.
- Risk to security of supply must be addressed for both BAU operation and under emergency conditions following a system shutdown
- Participants should agree alternative emergency despatch with DNO/DSO
- Small parties providing Black Start must have 24/7 telephony
- Must also consider: GC0117; RfG; E&R Phase 2; Distributed Restart
- The benefits will take some time to materialise, so analysis should take account of these future benefits, not just the current situation

Solutions considered

The workgroup considered the following potential solutions:

Third party telephony	Outside the hours of 0800 to 1800 each day, an embedded generator or demand provider with a registered capacity below certain defined thresholds could be permitted to subcontract their Control Telephony (CT) or System Telephony (ST) to a third party, so they maintain robust 24/7 telephony. The Electricity National Control Centre (ENCC) could then communicate with the third party to dispatch BM actions. × The workgroup agreed that the option to subcontract CT / ST to a third party is already provided for under the current Grid Code arrangements and therefore no change was required.
Mobile phone / internet-based phone	A BM participant that is required to have System Telephony can use a mobile phone or internet phone to fulfil this requirement. There would be no change to Control Telephony requirements. This solution recognises the likelihood that in the future (certainly after 2025) all landline telephony in GB is expected to depend on VOIP rather than PSTN. CT will remain resilient, but ST will become much less resilient to a loss of power as it moves away from PSTN, which will no longer be available after 2025. Therefore, this change would reflect the direction of travel with technology. ✓ Taken forward as part of the solution.
No out of hours telephony required below certain MW thresholds	Outside the hours of 0800 to 1800 each day, a BM participant with a registered capacity of less than an agreed threshold is not required to have a 24/7 staffed Control Point. At times when EDL/API communications between ESO and the BM participant are unavailable or not functioning and the BM participant cannot be contacted via telephone, they must adhere to their declared PN at the last gate closure, which is a requirement of Grid Code under BC2.9.7.2(b) as it stands. It would be accepted as a risk from both sides that, outside the hours of 0800 to 1800, on the rare occasion that electronic comms are not functioning, the BM Participant can't be contacted. The hours 0800 to 1800 are chosen as there is an existing exemption in CC.7.9/ECC7.9 for BM participants whose bilateral agreements don't specify compliance with BC2. In these cases, the Control Point doesn't need to be staffed outside those hours. ✓ Taken forward as part of the solution.

The agreed solution is a combination of the second and third options above.

Quantifying the risk of EDL failure

Given that telephony is only used as a back-up to EDL / API during outages, a key consideration for the Workgroup was the risk of EDL / API failure. In other words, how often is electronic communication between the ESO and BM participants unavailable typically?

As per page 8 of the Communications Standard (link), for the EDL communication system, for generation/demand providers below 100MW capacity, on average there are less than 12 hours of downtime per year.

The ESO also provided the following details, covering the period 1st March 2019 and 17th August 2020:

- There have been no occasions when both the main and back-up routes for a site have failed
- There have been rare occasions when a single comms route failure has resulted in loss of the EDL connection. The last of these was during a recent fibre break between two locations where a number of EDL links were lost because the automatic rerouting to the back-up route did not work correctly. The downtime for the EDL connections on this occasion was about 8 hours.
- For Wider Access, there may not be comms route resilience so downtime is likely to be higher but there is no data available for this.

What thresholds should apply?

The following capacity thresholds were proposed for both generation and demand:

- ✓ Below 50MW per Control Point, or;
- ✓ Below 10MW per site (where a site is not part of a Virtual Lead Party)

In other words, any single site included in a Control Point's aggregated capacity of below 50MW can be above the 10MW site level threshold. This is because the ESO doesn't dispatch sub-sites, so for aggregators, the make-up of the max 50MW would be irrelevant.

The Workgroup considered whether higher thresholds should apply to give more benefit to slightly larger generators / demand providers, given that the risk was so low. However, it was felt that keeping the thresholds at 50MW (per control point) and 10MW (per site) would make the solution more future-proof and less likely to need changing in the near future as the numbers taking up the option potentially grows.

The rationale for the two proposed thresholds is as follows:

10MW per site:

- **Supported by the NGESO Energy Steering Group (ESG)**
  The NGESO Energy Steering Group is an internal NGESO forum of Electricity National Control Centre (ENCC) Operational Managers, experts and specialists that meets once a month as a forum for discussion and guidance on ENCC activities, including: operational/commercial performance; strategy; resource allocation; best practice and performance improvement; ENCC contributions to incentive scheme performance; input into investigations.
- **Supported by latest data** (February 2021) - there are currently only five BMUs below the 10MW single site threshold, with a combined registered capacity of 39.5MW, therefore no risk to security of supply at the present time.
- **Helps small generators/demand providers** to become established before requiring 24/7 telephony.
- **No Large Power Stations in GB would fall below the 10MW threshold**, as 10MW is the lowest of the GB transmission areas' thresholds between Small and Large Power Stations in GB, which applies in SHE (North Scotland) and for OFTOs.
- **No overlap with 100MW**, so that there is no overlap with the more onerous requirements that apply to embedded plant above 100MW such as mandatory participation in the BM, and requirement to sign the CUSC, noting that all directly

connecting plant would be required to be a BM participant and sign the CUSC, irrespective of size.

- **Significantly below 300MW**, which is the magnitude of the generation loss to ensure System Frequency remains within Operational Limits (49.8Hz, 50.2Hz).
- **Suitable alignment with RFG**. 10MW is the Type B-C boundary set in GB under Requirements for Generators (RFG) European Network Code. The Type B-C boundary is the point at which the technical requirements evolve from a manufacturer standard and become associated with more active generator management (for example, Type C and Type D power generating modules are required to have a full frequency response capability). Therefore, 10MW for GC0134 is in alignment, as the ESO would not want to put excessive requirements on smaller generators.

50MW per Control Point (where a site is not part of a Virtual Lead Party)

- **Supported by the NGESO Energy Steering Group** – as above
- **Supported by latest data** (February 2021) - There are currently four aggregators with a total capacity below the 50MW Control Point threshold, with a combined capacity of 101MW and therefore no risk to security of supply at the present time.
- **Helps small aggregators** to become established before requiring 24/7 telephony.
- **Significantly below 300MW**, which is the magnitude of the generation loss to ensure System Frequency remains within Operational Limits (49.8Hz, 50.2Hz).

Current capacity below proposed thresholds

The February 2021 volumes of individual sites above/below 10MW and aggregators above/below 50MW, as provided by the ESO, are:

	Number of BMUs	Cumulative Capacity (MW)
Primary BMUs below 10MW	5	40
Aggregator BMUs below 50MW	4*	101*
Total	9	141

**includes 3 aggregators of total 25MW capacity that are currently in the process of being registered and not yet active.*

Cost Benefit Analysis

The Workgroup considered the benefits, costs and risks of the proposal and the recommended solution. Some Workgroup consultation responses also stated that a cost benefit analysis was needed.

The Workgroup felt that a quantitative cost benefit analysis would not be feasible or appropriate for this proposal. For example, it would be impossible to estimate:

- how many generators / demand providers would opt to join the BM as a result of this modification, that otherwise would not have joined the BM.

- how many existing and future BM participants would opt for only 0800 – 1800 staffed telephony where, without this modification, they would have had 24/7 telephony.

The ESO only has limited foresight of new connections, 3-6 months ahead. Therefore, the Workgroup approached this question by considering the benefits and risks / costs as outlined below.

In summary, the proposed solution removes (in the view of the Proposer and the majority of the Workgroup members) a barrier to entry, helping small generators and demand providers to join the BM, leading to increased competition, increased security of supply and lower balancing costs.

There is likely to be a net increase in visibility and control for the ENCC if, for example, one 10MW generator joins the BM due to GC0134, even if multiple 10MW generators choose to opt out of 24/7 telephony as a result of GC0134.

	How much of the time the plant is instructable* by the ESO:		
Impact of GC0134	Without GC0134	With GC0134	Difference
Site joins the BM	None	Vast majority of the time *(24/7 EDL/ADI with 0800-1800 telephony for backup)*	↑ Complete increase
Site opts out of 24/7 telephony	24/7	Vast majority of the time *(24/7 EDL/ADI with 0800-1800 telephony for backup)*	↓ Very small decrease

*either by the primary method of electronic communication (which is on average available 8,752 hours out of 8,760 hours per year) or, when at those times when electronic communication is unavailable, by the backup method of telephony which would be available between 0800 and 1800 every day, i.e. 70 out of 168 hours per week.

Detailed view of benefits and costs / risks:

Benefits

In the view of the Proposer and the majority of the Workgroup members these are:

- Removal of a barrier to entry, helps small, individual or aggregated generators and demand providers join the BM, leading to new participants entering the BM who otherwise might not have done, increasing competition and leading to reduced balancing costs and ultimately lower consumer bills.
- Potential benefit to security of supply, due to increased visibility and control of generation / demand for the ESO:
  - Between 0800 – 1800 every day:
    - ESO is able to instruct new BM participants who, without this change, may not have joined the BM.
  - Outside the hours of 0800 – 1800:

- For the vast majority of the time, the ESO is able to instruct new BM participants (who may otherwise not have joined the BM) via EDL / API. The only time they could not be instructed would be on the rare occasions when the electronic communications link is not functioning (estimated average 12 hours per year for EDL)

- On a practical note, in the unlikely event of a large-scale failure of EDL / API, it would be impractical for the ESO to contact all plant by telephone and therefore priority would have to be given to the larger plants.
- Longer term benefits as small BM participants grow beyond the thresholds (and therefore move to 24/7 telephony).

A minority of Workgroup members did not agree with all these benefits.

Costs / Risks

In the view of the Proposer and the majority of the Workgroup members these are:

- Potential impact on security of supply outside the hours 0800 – 1800 at times when electronic communication routes aren't functioning. This would occur if some existing BM participants who are below the thresholds chose to stop providing 24/7 staffed telephony, and/or if future BM participants who would currently require 24/7 staffed telephony instead opt for 0800 – 1800 only.
    - The cumulative volume of current BM participants who are currently below the thresholds is less than 150MW, and the average downtime of EDL for BM participants below 100MW is 12 hours per year, meaning the impact of security of supply is extremely small.
- Whilst initially the risk to security of supply is negligible, over time, the cumulative volume of BM participants who are below the thresholds and not providing 24/7 staffed telephony could grow until it creates a material risk.
    - This risk is mitigated by a regular review process which is outlined further below.

Aggregator cost analysis

The following high-level analysis provided by the Proposer looked at three scenarios for telephony provision and how estimated profit margin varied according to the capacity of the aggregator. The three scenarios were as follows.

24/7 (current requirement)	Control Points provide their own 24/7 staffed Control Telephony.
Third-Party (out of hours)	The aggregator contracts their out of hours Telephony as a service from another provider that already has the 24-hour capability.
Office Hours only (0800-1800 every day)	Control Points responsible for less than 50MW of Capacity are not required to operate any Telephony outside of office hours.

The analysis indicates the following:

- The difference between the '24/7' and 'Office Hours only'[2] scenarios is substantial, with running costs for '24/7' being roughly twice that of 'Office Hours only' telephony.
- Whether or not this has a material impact on a control point's commercial viability depends primarily on the capacity that control point manages. Under the '24/7' scenario, control points are viable when larger than approximately 40MW whereas in the 'Office Hours only' scenario they become viable at roughly 20MW or greater.
- This supports the proposed 50MW upper limit for a control point under this change proposal as a means to help new control points that enter the balancing market to grow to a point where they can sustain the cost of 24/7 telephony.
- The concept in the Third-Party scenario is a compromise position that falls in between the other two options with some additional cost on the control point to achieve greater comfort for the ENCC. At this level a Control Point would need approximately 30MW of wind capacity in the BM to afford the out of hours telephony contract.

The solution will apply to directly connected BM Participants as well as embedded

The original proposal was to change the telephony requirements for 'small, distributed and aggregated market participants who are active in the Balancing Mechanism'. However, the Workgroup subsequently agreed that below the proposed thresholds, the change in requirements could apply equally to those connected to the transmission system as well as the distribution system. As noted elsewhere, the current total capacity of BM participants below the two thresholds is below 150MW.

The revised telephony requirements will be documented in Grid Code

The Workgroup considered whether the proposed changes including the thresholds should be applied as changes to the Grid Code and/or in other documents such as Bilateral Agreements or the Communications Standard.
The outcome was to make the changes in Grid Code as this provides transparency and a robust governance process for changes that the industry can influence. Although any future change to the thresholds would require a potentially lengthy code change, it was noted that if there was ever a risk to security of supply, an urgent modification could be raised if necessary.

What happens if, over time, the cumulative capacity of BM participants that don't have 24/7 telephony reaches a significant level?

If implemented, the ESO will review the impacts of this modification regularly. If at any point in the future a material risk emerges, the process for changing the thresholds or requirements would be the normal Grid Code governance process.
The review will take place at least every two years, or more frequently if it is considered necessary, and will include but not be limited to the following:

[2] Note the GC0134 proposed solution is 08:00-18:00 every day – this is longer than traditional 'office hours'.

- Review the thresholds – monitor the number of BM participants who do not have 24/7 staffed telephony and their individual and cumulative total capacity. Assess the level of risk this poses to system security.
- Consider not just the overall capacity but any concentration in a particular region.
- Review the resilience of EDL / Wider Access API
- The ESO will monitor this and where there is a justified reason for a change, the issue would be raised through the normal Grid Code governance procedures.

Communication testing

The normal testing requirements outlined in CC.6.5.4.4 would apply to all applicable BM participants.

Retrospectivity

The majority of the Workgroup agreed that the solution should apply retrospectively, given that the existing combined capacity of BM participants that fall below the proposed thresholds was less than 150MW and therefore no risk to security of supply at the present time. This ensures consistency for embedded and directly connected BM participants.

Interaction with other modifications

GC0143 & GC0147 (Last resort disconnection of embedded generation)	A concern was raised in one of the Workgroup consultation responses regarding whether the ability to carry out effective emergency disconnection of embedded generation in low demand scenarios would be impacted, if GC0134 led to significant volumes of generation that the ENCC couldn't contact. The majority of the Workgroup don't believe this is a concern, for the following reasons: • The thresholds are low enough that currently and in the foreseeable future, the capacity of BM plant that doesn't have 24/7 telephony would not be significant enough to cause a risk to security of supply. • GC0143 and GC0147 are designed for non-BM participants who the ESO don't have contact with. GC0134 could lead to there being BM participants who don't have robust 24/7 comms, however the benefit of them being in the BM and having EDL / API comms with ENCC would outweigh the risk that some of them don't have telephony outside the hours of 0800-1800 on the rare occasions when electronic comms are unavailable. • It's very unlikely DNOs would be issuing instructions by phone during the emergency circumstances that GC0143/GC0147 would apply to, particularly for the very small generators. They're likely to be disconnected via switching script.

	• GC0143 / GC0147 will benefit from GC0134 as it supports smaller plant in joining the BM, further reducing the likelihood of the need for emergency disconnection. • The ESO will consider the enduring solution (GC0147) that is currently in development, when reviewing the GC0134 thresholds in the future.
GC0148 (Implementation of EU Emergency & Restoration Code Phase II)	Control Telephony (CT) and System Telephony (ST) requirements in the Grid Code are due to be reviewed as part of GC0148. Any relevant changes made as part of GC0134 would need to be reflected in GC0148 as appropriate.
GC0117 (Alignment of Small, Medium and Large Power Station Thresholds across GB)	A Workgroup consultation response raised the point that GC0117 could alter the number of Large Power Stations that would be obligated to have 24/7 telephony. This could impact system security, which is a key consideration for GC0134, and change the number of generators that this modification could apply to. • GC0117 is unlikely to have an impact as the lowest threshold between Large and Small Power Stations is set at 10MW, though it is possible that this could change. • GC0134 is likely to reach a solution before GC0117, so this would need to be a consideration in the proposed regular reviews of the GC0134 solution and thresholds and if applicable in the development of GC0117.

Impact on other NGESO services

A Workgroup consultation response raised the question of whether GC0134 would reduce the ability of services such as Fast Reserve, Frequency Response and STOR would, and whether BM participants opting not to have 24/7 telephony would reduce the likelihood of them being accepted to provide these services. The Workgroup addressed these points as follows:

1. **Mandatory services** (Reactive Power and Frequency Response)

   There is no impact of GC0134, because these services are only mandatory above 10MW in Grid Code (and the 10MW threshold applies per module i.e. at a lower level than site).

2. **Non-mandatory commercial arrangements**: e.g. ODFM.

   In order to provide these optional services, the participant would have to meet the requirements for the service regardless of the GC0134 threshold.

Interaction with EU Codes

The Terms of Reference list the requirement to consider interaction with EU codes, including specifically the following. The Workgroup's conclusions are listed next to each.

E&R Phase 2 (COMMISSION REGULATION (EU) 2017/2196 establishing a network code on electricity emergency and restoration)	Article 41 of the E&R network code requires that a Restoration Service Provider… *'shall have a voice communication system in place with sufficient equipment redundancy and backup power supply sources to allow the exchange of the information needed for the restoration plan for at least 24 hours, in case of total absence of external electrical energy supply or in case of failure of any individual voice communication system equipment.'* Therefore, a clause has been added to CC.7.9 to clarify that BM Participants who are unable to provide Control Telephony and do not have a continuously manned Control Point may be unable to act as a Defence Service Provider or Restoration Service Provider or Black Start Service Provider, where these require Control Telephony or a Control Point in respect of the specification of any such services falling into these categories.
System Operation Guideline (Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation)	There are no implications regarding telephone communication.
European Connection Network Codes (RfG, HVDC, DCC)	There are no implications regarding telephone communication.

Impact on working relationship between BM participants and the ESO

A Workgroup consultation response raised the question of whether a BM participant choosing to operate a telephony service during office hours only would disadvantage them in terms of the working relationship that the ENCC builds with BM participants via telephone.
The Workgroup noted that whilst there would be some dialogue by phone between ENCC and BM participants, this is fairly limited and therefore didn't consider this a material consequence, particularly given that all BM participants would have telephony every day between 0800 and 1800.

Alternative emergency dispatch

To mitigate the risk outside of hours, participants should endeavour to recommend and agree alternative (emergency) despatch with the relevant DNO/DSO, which would be reviewed and assessed by NGESO on a case by case basis, and where appropriate have it defined in their Connection Agreement.

Application to demand & generation

The proposed solution applies to demand and demand aggregation as well as generation.

Potential alternatives

No alternative options were proposed by any of the Workgroup Members.

Legal text

The proposed changes are summarised below. The full legal text can be found in Annex 5.

CC.6.5.2.2 and ECC.6.5.2.2	• Definition of System Telephony revised to include an analogue or digital telephone line, a mobile telephone or an internet-based voice communication system. • Reference to PSTN removed and replaced with reference to 'an appropriate public communications network'. • Details of Supervisory Tones removed. These are now out-of-date requirements that are now common knowledge.
CC.7.9	• Thresholds of 10MW (site) and 50MW (Control Point) added with explanation of the requirements that apply to BM Participants below those thresholds. Clarification of how instructions would be issued and responded to in different circumstances. • Clause added to state that any BM Participants below the thresholds that choose not to have 24/7 telephony may be ineligible to be a Defence Service Provider or a Restoration Service Provider (including Black Start), where these require Control Telephony or a Control Point in respect of the specification of any such services falling into these categories. • Some minor corrections to the current baseline and small clarifications.

What is the impact of this change?

Who will it impact?

- ENCC – Greater visibility of distributed generation, control over more units, risk of reduced control over some existing participants.
- BM Participants – Option of ceasing 24/7 telephony if below threshold.
- New entrants to the BM – Lower barriers to entry.

What are the positive impacts?

- Removal of a barrier to entry, helps small, individual or aggregated generators and demand providers join the BM, leading to new participants entering the BM who otherwise might not have done, increasing competition and leading to reduced balancing costs and ultimately lower consumer bills.
- Brings additional capacity into the control of the BM and visibility of operational metering. This would reduce the potential errors in forecasting distributed generation.
- Potential benefit to security of supply, due to net increase in visibility and control of generation / demand for the ESO.
- Longer term benefits as small BM participants grow beyond the thresholds (and therefore move to 24/7 telephony).

What are the negative impacts (if any)?

- There is the potential for existing participants to abandon their 24/7 telephony in favour of only using electronic methods of communication outside of office hours.
- Small participants will be unable to be despatched during any IT outage or system failure that occurs outside the hours of 0800-1800, thereby reducing resilience in the short term.
- A future Grid Code change may be required if, over time, the cumulative volume of BM participants who are below the thresholds and not providing 24/7 staffed telephony grows significantly and becomes a risk.
- A move away from a level playing field, leading to higher consumer bills.

Workgroup vote

The Workgroup met on 26 February 2021 to carry out their Workgroup vote. The full Workgroup vote can be found in Annex 4. The table below provides a summary of the Workgroup members view on the best option to implement this change.

The Applicable Grid Code Objectives are:

a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity
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);
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;
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
e) To promote efficiency in the implementation and administration of the Grid Code arrangements

Code Administrator Consultation Summary

The Code Administrator Consultation was issued on the 07 May 2021, closed on 07 June 2021 and received 5 responses. A summary of the responses can be found in the table below, and the full responses can be found in Annex 6.

Code Administrator Consultation summary	
Question	
Do you believe that the GC0134 better facilitates the Grid Code Objectives?	4 out of the 5 respondents support the solution and believe that it better facilitates the Grid Code objectives. This modification removes a barrier to entry and helps small, individual or aggregated generators and demand providers enter the Balancing Mechanism. This increases competition and gives the ESO visibility and control of additional capacity, leading to lower balancing costs and ultimately lower consumer bills than would otherwise be the case. The proposed thresholds have been set high enough that they give the opportunity for small generators to benefit, but low enough that they create no risk to system security. However, the ESO will evaluate these thresholds on a regular basis to mitigate any risks to the network. One respondent believes that this proposal does not better facilitate the Grid Code objectives. This is because they believe that there are enough options and alternatives available, such as the services provided by organisations such as energy24 Limited, to market participants, to fulfil the existing requirements. They disagree with the position that the current telephony requirements present a barrier to entry. This claim assumes that the telephony requirements can only be met in-house rather than being outsourced to a company, such as energy24 Limited, which is capable of providing this service to new entrants and existing participants. The fees for this service are affordable and highly unlikely to create to a barrier entry.

Do you support the proposed implementation approach?	4 out of the 5 respondents support the implementation approach and 1 respondent does not.
Do you have any other comments?	None
Legal text issues raised in the consultation	
None	
EBGL issues raised in the consultation	
None	

Panel recommendation vote

The Panel met on the 24 June 2021 to carry out their recommendation vote.
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						
Voting Statement						

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						
Voting Statement						

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						
Voting Statement						

Vote 1: Does the Original facilitate the objectives better than the Baseline?
Panel Member: **Guy Nicholson, 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	Yes	Neutral	Yes	Yes	Neutral
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						
Voting Statement						

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						
Voting Statement						

Vote 1: Does the Original facilitate the objectives better than the Baseline?
Panel Member: **Robert Longden, Supplier**

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

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						
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						
Voting Statement						

Vote 2 – Which option is the best?

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

Panel conclusion
The Panel, unanimously/ by majority recommended that the Proposer's solution should be implemented. (TBC post Panel)

When will this change take place?

Implementation date:

This change will be implemented after the decision by the Authority and is currently planned to be summer 2021.

Implementation approach:

This modification is not impacting on any systems.

Interactions

☐Grid Code	☐BSC	☐STC	☐SQSS
☐European Network Codes	☐ EBGL Article 18 T&Cs[3]	☐Other modifications	☐Other

This modification is not interactive with any proposal for changes to other GB frameworks.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
EBGL	Electricity Balancing Guideline
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
API	Application Programming Interface
BM	Balancing Mechanism
DNO	Distribution Network Operator
EDL	Electronic Dispatch and Logging
ENC	Electricity Network Company
ENCC	Electricity National Control Centre
ESG	Electricity Steering Group
ESO	Electricity System Operator

Reference material

- N/A

Annexes

Annex	Information
Annex 1	Proposal form
Annex 2	Terms of reference
Annex 3	Workgroup Consultation Responses
Annex 4	Legal Text
Annex 5	Workgroup Vote
Annex 6	Code Administrator Consultation Responses

[3] 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.