GC0156 Workgroup Consultation Summary

21 November 2022 – 30 December 2022

17 non confidential responses received.

- Out of 17 respondents, 9 support that the original proposal better facilitate 1 or more of the applicable Grid Code objectives (mostly a, b, c); 5 respondents did not agree and 2 had no comment. There was a split between respondents who support the implementation approach (6) and respondents who did not (5)
- All respondents that answered the question on cost recovery agreed that there is need for cost recovery mechanism for parties obligated by GC0156; 10 agreed that this should be undertaken by the Workgroup
- All respondents, asides from the ESO either felt that the GC0156 proposals are NOT sufficient and cost effective to ensure that NGESO can meet its ESRS licence obligations (7) or had no comments (8)
- 3 of the 6 respondents who agree with the ESRS restoration target being expressed as transmission demand and not total demand, did not agree with the implications. 5 respondents did not agree with the term and 5 did not comment
- Only 2 respondents support that there is a common understanding between stakeholders around demand to be restored in GB required by ESRS. Majority of respondents (11) agreed that there will be barriers for Network Operators and Users to deliver the changes proposed to implement the ESRS by December 2026
- Some respondents (8) expressed that, to implement ESRS obligations, further changes are required to the network i.e. NETS and/or Distribution Network.
- Split responses as to whether the proposed solution of 72 hrs resilience should be applied retrospectively to existing CUSC parties
- Some respondents (8) believed that cyber security requirements in accordance with the NIS standard are sufficient and as referenced in the proposed Grid Code drafting
- 7 out of 11 respondents that provided feedback regarding legal text did not agree that the draft legal text is appropriate and sufficient to implement GC0156. No answer from 5 respondents
- 6 of 11 respondents did not feel that there should be further assurance activities in addition to those described in the proposed legal text within OC5. Others provided no answer
- 9 respondents support the ESO proposed approach that a separate subgroup should be established under the umbrella of GC0156 to develop a set of technical requirements associated with restoration services for inclusion in the Relevant Electrical Standards. 3 were unsupportive. 4 had no comment
- Majority of respondents (11) expressed that the implications of the proposed future requirements are not clear

Key issues/suggestions

Implementation Approach

- If changes only apply to commercially agreed requirements, then the requirements can be codified to apply as parties get contracts and not retrospectively
- There is no clarification of when each of the new obligations on parties would take effect, specifically whether they will come into effect before 31 December 2026. ESO acknowledged that it is an issue and will be addressed. Follow OC9 until DRZP is established
  Issue about timing is where retrospectivity will be applied. How to deal with plant that becomes active prior to 2026.
  Require legal text to be prior approved by Ofgem. Consider extending implementation window from the usual 10 working days…
  Address discrepancies between the ESO tender and the requirement in the GC
- There is a lack of detail in the implementation framework approach that will make it difficult for affected parties to fully understand what will be required until specific Local Joint Restoration Plans and Distributed Restoration Zone Plans are drawn up Relative to Anchor Gen / Top up providers hence until plans are developed, it is hard to say
- The development and implementation of Distribution Restoration Zone Plans is a new concept and could inevitably bring issues that will need to be addressed in the future
- The implementation approach does not provide sufficient time to comply with the consequential industry and code changes required from GC0156

Implementation Date

- Suggested 2 approaches to the 2026 date:
  - Have a mirrored version of the code which is available as soon as the code is approved by the Authority for stakeholders to be aware of their obligations until the requirements become live on 31 December 2026
  - Place obligations on parties with applicable dates of 31 December 2026 whilst the remaining elements continue to apply

Retrospectivity

- The implementation of 72hr resilience for critical substations is based on a CBA produced by the E3C and detailed in ENA ER G91. This data or analysis for the extension of this resilience to all CUSC parties has not been shared. No CBA done for G91
- If the 72 hr resilience issues are retrospective, there needs to be a grace period for non-compliant installations to become compliant. Might be better hard coded as it could lead to too many derogatory requests to Ofgem. Consider re-running the survey
- The retrospective application of the mains independence period is necessary to facilitate the requirement for critical tools and facilities. However, it would be appropriate for Aggregators and Offshore Generators to be caught by this requirement from 31 December 2026 rather than retrospectively Will wait for outcome of 148

- Sufficient consideration and background work has not been performed to evaluate the impact that retrospective changes to the Grid Code will have for existing Users

Barriers for Users

- Modifications to existing User plant and confirmation of compliance is likely to be costly, time consuming and in many cases of no practical use to the network operators. Not all existing user plant would be suitable or cost effective for delivering ESRS services even if modifications were to be made.

Impact on Parties / Coordination between parties

- It is not appropriate or cost-effective for all existing Users to be required to comply when not all Users are intended to be contracted to offer System Restoration Services Not every generator will be contracted to offer the service
- The changes proposed under ESRS are not yet clearly defined in order to assess the impact these changes will have on TO obligations. Lack of clarity on what this means for TOs, and the impact these changes will have TO obligations will be addressed with an STC modification
- More co-ordination is required between generators, ESO, TOs, DNOs and OFTOs. Detailed regional studies and plans need to be developed to minimise risks and ensure that TOs, DNOs and OFTOs understand the differences in response between various connected assets during restoration and prepare for adequate contingencies and resilience ESO will run overall restoration and have plans in place details will be used to drive the LJRPs and DZRPs. Due to evolution studies are necessary
- There probably remains confusion over the ESRS role of aggregators and other CUSC parties without physical assets and no clear means of applying the GC0156 resilience requirements to these parties
- Further consideration of VLPs / Aggregators to enhance understanding of risks (particularly common mode risks) that may prevent them from delivering restoration services
- Financial and practical impact on various classes of generation has not been established. Suggestion to carry out a survey of all existing transmission connected generation

Cost impacts / cost recovery mechanism

- How the level of cost imposed on the generation will be recovered from consumers, and costs to be incurred by generators or wider social benefits have not been discussed in the workgroup. Also, material retrospective obligations should have cost recovery *ESO Response: This issue is being addressed via CMP398*
- The issue of compensation is best addressed through the CMP398 workgroup rather than GC0156 which concentrates on technical and operational requirements *ESO Response: Agreed*

Cost Benefit Analysis

Views for Cost Benefit Analysis

- A CBA will be necessary to assess the impact of standardised requirements across regions against ESRS tender and market requirements being derived through regional studies and study of capabilities of types of generators based in different LJRPs and DRZPs
- A CBA should be performed on a case-by-case basis; some plants may not be able to accommodate any of the proposed changes and should not be penalised for this.

Views against Cost Benefit Analysis

- A lighter review and cost comparison should be carried out and not a CBA. This should examine the costs to the end consumers and work upon services the ESO buys rather than the network costs. It should look at comparable value against conventional and revised mechanisms.

ESO Response: We acknowledge that every Mod requires a CBA to justify the benefit(s) of the mod however, on this occasion, Ofgem carried out a CBA to justify the benefit(s) of ESRS following which Ofgem included the ESRS in ESO's License as an obligation.

*Repeating the CBA would add no value because regardless of the outcome, ESRS is a **license obligation** and will still be implemented however, should alternatives be raised, we believe a CBA would be more appropriate to compare the benefit of the original solution with the alternative.*

Transmission Demand vs Total Demand

- Concern that basing the restoration percentage upon the total demand on the transmission system alone and not the overall whole system would mean that at certain times of the year a significant volume of overall demand on the GB whole system will not be taken into account when looking at the 24 hour target restoration quantum at the time of a total or partial shutdown.
- Using the term transmission demand poses the risk of raising customer expectations about supply restoration that are greater than those required or that will be delivered by the ESRS. Gross demand that should be restored at each Grid Supply Point substation would be more appropriate.

ESO Response: Transmission demand is the directive from BEIS. This was also explained in a GC0156 Workgroup meeting by BEIS on 18th August 2022.

Suggestion for Assurance Activities

- Regional power system studies to define regional ESRS requirements
- Power system simulation with both RMS and EMT models (ref GC0141) of LJRPs and DRZPs to ensure successful restoration can be performed with the contracted anchor and top-up service providers taking into account various fault conditions

ESO Response: We believe it is important to have a level playing field to allow for a competitive tender process.

We agree that in developing the LJRPs and DRZPs, relevant studies will be jointly carried out with TO/DNO, where applicable.

Clarity of ESO Licence Obligations

- The nuances of the standard and the ESO licence obligations need to be articulated by the ESO and BEIS more clearly to wider industry and consumers. The need case should be clearly demonstrated; assessment of current and future capability requirements and a CBA

ESO Response: The need case for the obligation was done by Ofgem.

Technical Requirements

- Suggestion that a separate group, involving appropriate experts from across the industry, should be established to develop a set of technical requirements associated with restoration services but included in the Grid Code. One respondent felt that this can be established within the existing GCO156 working group
- Developing the technical requirements associated with restoration services as an Electrical Standard is reasonable as an interim solution but eventually should be included in the Grid Code

ESO Response: We acknowledge the need to have a robust set of requirements developed outside of GC0156. Note, as the network evolves, technical requirements would also change overtime.

New Entrants

- Concern that in the medium to long term, exemption of 'new entrants' (in 2022) from the GC0156 obligations will impede the meeting of the ESRS obligations from 2026 and this detriment could increase overtime.

ESO Response: There is no intention to exempt new entrants from GC0156 obligations.

Restoration Service Providers

- It is not entirely clear what parts of the Grid Code apply to embedded Restoration Service Providers. It would be neater if the technical requirements for an embedded generator providing Restoration Services were in the Distribution code and only the OC 9 and BCs applied.
- Suggestion to align the same legal definition of a 'Restoration Service Provider' (as per statute) within the Grid Code.

ESO Response: DCode is being updated in parallel with the Grid Code.

Other suggestions

- Due to the proposed radical changes to the design and operation of distribution systems with embedded generation, it will be important to keep an appropriate project management approach in place for ESRS implementation by December 2026.

ESO Response: Agree. For changes relating to DRZPs, these will be managed during the contracting stage. For generic changes, these will be managed via the assurance process.

- Consider consolidating various changes into a separate subcode of the Grid Code in a similar way to the Connections Conditions

ESO Response: This introduces additional complexity as some restoration obligations are also relevant during BAU operations.

- The recommendations of the Communications Infrastructure Working Group Report are not an agreed output of the Communications Infrastructure Working Group. Specifically, the need for ICCP links was not established as a requirement for ESRS in the context of the GC0156 Communications Working Group deliberations

ESO Response: ICCP Links were discussed during Comms subgroup meetings and captured in the Comms report (page 20). The legal text drafted specifies DNO data to be shared with ESO without reference to ICCP Links. We would like to know how the data will be shared without the ICCP Links. The Legal drafting removes reference to ICCP Links and even when initially drafted it referred to ICCP links or equivalent. The revised text in the Grid Code removed this though it is referred to in the Distribution Restoration Zone Control System Electrical Standard.

Legal Text comments

- CC 6.3.5.2 obligation to adjust governor settings is unclear
  ESO Response: Changes were introduced to the drafting on this issue with Stakeholders prior to the consultation. We will need to raise this issue with the Workgroup and the specific stakeholders concerned to see how the drafting can be improved. This point has been highlighted as a comment in the latest version of the drafting.

- Safe rejection of emergency instructions should be stated in OC9
  ESO Response: We will look to see how this can be accommodated. We will need to discuss this with the Workgroup. This issue has been highlighted in the legal drafting as a point for discussion.

- The obligation for 72 hrs is a “shall” obligation and it is absolute. Retrofitting this could be a major task for existing generators hence “reasonable endeavours” should be considered for existing and a “shall” for new generation.
  ESO Response: Legal text has been updated to include……..for existing plants where this requirement is cost prohibitive or technically impossible, such plants will be exempted. It is important to note however that if the 72 hour requirement cannot be achieved there is a risk the ESRS will be unable to be met.

- It needs to be clear that 72 hours as a minimum for all BM parties applies to systems on the “physical site” and does not relate to wider systems or Energy Management.
  ESO Response: Unclear – e.g. If a number of BM WFs are controlled by one remote control point then we expect that control point to be resilient.

- In terms of resilience period, the consultation document refers to a minimum of 72 hours for certain requirements. The timescale should be increased to a 'minimum period of 72 hours so that assurance activities are measured against the underlying requirements
  ESO Response: comment unclear

- Could not reference CC/ECC 6.4.6.3b in any of the annexes / draft legal text provided.
  ESO Response: We are aware of this issue and the latest version will rectify the drafting.

- The existing capabilities for transmission licensees remains largely unchanged in OC9.
  ESO Response: This is correct as most of the requirements and any new requirements would be under the STC rather than the Grid Code.

- The updates to OC9 in respect to network design and operational capability requirements relate primarily to DRZPs. The impact and requirements of these are best assessed by the network operators
- *ESO Response: Agree. There will also need to be corresponding updates to the D Code which is undergoing a separate consultation.*

- It is not efficient to expect generators to follow a derogatory process - there should be hard coded exemption in the legal text to cover where it is not feasible for a plant to fulfil mandatory requirements

  ESO Response: We agree with this in principle. The revised drafting includes a comment to address this issue – particularly for fault ride through.