SONI Consultation Paper: Large Demand Customers Grid Code Modification

Consultation Paper

17/01/26

Public Consultation Document: Proposed Grid Code Modification – Large Demand Customers Requirements

1. Purpose of Consultation

SONI are seeking public feedback on proposed changes to the Grid Code to introduce additional performance requirements for large demand facilities. These changes aim to improve system resilience and maintain security of supply in light of increasing demand from data centres and other large demand customers.

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2. Background

The integration of large demand facilities presents new challenges for grid stability during fault events in Ireland and Northern Ireland. Current requirements do not adequately address these risks. Over the past few years there have been several incidents that have highlighted the need for more stringent standards for large demand customers connected to the grid.

- **Recent Stakeholder Engagement:**
    - Industry webinar held on 3 November 2025 with over 50 participants
    - Approximately 20 bilateral meetings with data centre developers and other transmission-connected customers.
    - Updated information paper and Grid Code modification proposal issued on 17 November 2025.

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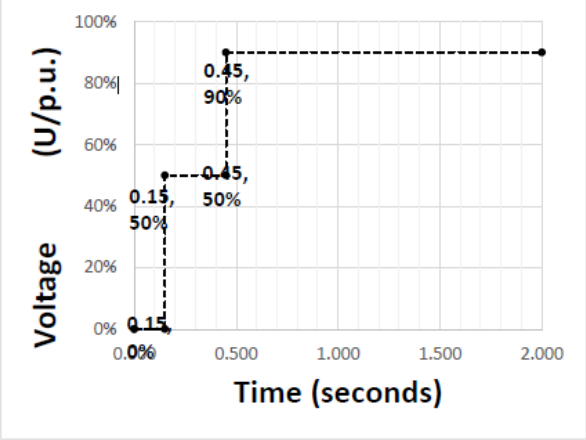
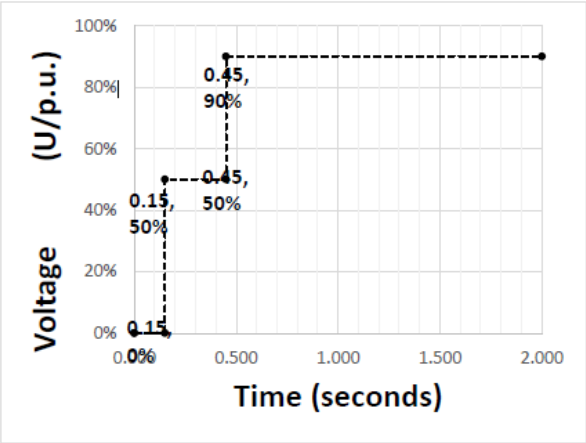
3. Summary of Proposed Changes

- **Fault Ride Through (FRT):**
  Demand facilities must remain connected during and after voltage dips caused by faults, following a specified voltage-time profile.
- **Active Power Recovery:**
  Facilities must restore at least 90% of pre-fault demand within 500 ms after the voltage at their connection point recovers to 90% of nominal.
- **RoCoF:**
  Facilities must remain connected during rate of change of frequency up to 1 Hz/s measured over 500 ms.
- **Voltage & Frequency Ranges:**
  Updated operational limits for transmission-connected demand facilities.

- **Compliance & Derogation:**
  Processes under development to manage implementation challenges.

Red-line Version of Impacted Grid Code Section(s) - show proposed changes to text:

Clause	Red Line Version Text Deleted text in ~~strike-through red font~~ and new text highlighted in **blue font**
CC.14.1.5	**Demand Facilities** shall remain connected to the **Transmission System** during rate of change of Transmission System Frequency of values up to and including 1Hz per second as measured over a rolling 500 milliseconds period. (Voltage dips may cause localised RoCoF values in excess of 1 Hz per second for short periods, and in these cases, the Fault-Ride Through clause CC14.1.6 supersedes this clause (CC14.1.5)
CC.14.1.6	**Demand Facilities** shall remain connected to the **Transmission System** during and following any **Fault Disturbance** on the **Power System** which results in a **Voltage** deviation which remains on or above the voltage-against-time profile specified in Figure CC.14.1.6 at the **Connection Point**. Following clearance of the **Fault Disturbance**, the **Demand Facility** should return to at least 90% of its prefault **Active Power Demand** within 500 milliseconds of the **Transmission System Voltage** recovering to 90% of the nominal **Voltage.** The post **Fault Disturbance** ramp up rate for the **Demand Facility**, shall be coordinated and agreed between the **TSO** and the **Demand Facility** owner. The voltage-against-time profile specifies the required minimum capability as a function of voltage and **Fault Ride-Through Time** at the **Connection Point** before, during and after the **Fault Disturbance**.  Figure CC.14.1.6: Voltage-against-time profile at the connection point for fault condition

Clause	Green Line Version Text
CC.14.1.5	**Demand Facilities** shall remain connected to the **Transmission System** during rate of change of Transmission System Frequency of values up to and including 1Hz per second as measured over a rolling 500 milliseconds period. (Voltage dips may cause localised RoCoF values in excess of 1 Hz per second for short periods, and in these cases, the Fault-Ride Through clause CC14.1.6 supersedes this clause (CC14.1.5)
CC.14.1.6	**Demand Facilities** shall remain connected to the **Transmission System** during and following any **Fault Disturbance** on the **Power System** which results in a **Voltage** deviation which remains on or above the voltage-against-time profile specified in Figure CC.14.1.6 at the **Connection Point**. Following clearance of the **Fault Disturbance**, the **Demand Facility** should return to at least 90% of its prefault **Active Power Demand** within 500 milliseconds of the **Transmission System Voltage** recovering to 90% of the nominal **Voltage.** The post **Fault Disturbance** ramp up rate for the **Demand Facility**, shall be coordinated and agreed between the **TSO** and the **Demand Facility** owner. The voltage-against-time profile specifies the required minimum capability as a function of voltage and **Fault Ride-Through Time** at the **Connection Point** before, during and after the **Fault Disturbance**.  Figure CC.14.1.6: Voltage-against-time profile at the connection point for fault condition

4. Rationale

- Enhance grid security and resilience.
- Align recovery requirements with other system users (PPMs, HVDC).
- Support Ireland and Northern Ireland's reputation as a leader in sustainable energy growth.
- While not a standard approach, Grid Code Governance arrangements are being followed.

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5. Industry Feedback Considered

- **Concerns Raised:**
    - Lack of market-ready solutions.
    - Tight timelines for compliance.
    - Risk of widespread non-compliance and reputational impact.
- **Responses:**
    - OEM solutions expected to become available in 2026.
    - Active Power recovery requirement revised to 90% of the pre-fault level, from the initial proposal of 95%
    - Compliance/derogation processes to mitigate risks This largely impacts existing connections in Ireland since NI does not typically apply Grid Code requirements retrospectively. However, SONI will seek to apply the proposed standards to applicable demand installations which have accepted connection offers but are not yet connected.

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6. Implementation Timeline

- **3 December 2025:** Presentation to Grid Code Review Panel.
- **January 2026:** Submission of recommendation paper to appropriate regulator.
- Further engagement and webinar planned for January 2026.

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7. How to Respond

The consultation period will run for 4 weeks. Users are invited to send their comments to SONI via email to gridcode@soni.ltd.uk by close of business on Wednesday

20/02/2026. Should Users have any queries, they should contact SONI via gridcode@soni.ltd.uk

Following receipt of comments in relation to this Consultation Paper and the expiration of the period for making comments, SONI will, in accordance with Condition 16 of its Licence, send to the Utility Regulator a report on the outcome of this review.

If you require your response to remain confidential you should clearly state this on the coversheet of the response. We intend to publish all non-confidential responses. Please note that, in any event, all responses will be shared with the Utility Regulator.

Following the end of the consultation period and subject to discussions to be held with the Utility Regulator, the approved modification to the Grid Code (with amendments as described in this consultation paper) will be incorporated into the code.