Utility Regulator

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By Email Only: **Alan.Kennedy@soni.ltd.uk**

Date: 3 June 2025

Our Ref: NET/E/JF/1233

Dear Alan,

RE: ESPS Phase Two Modification to the Grid Code

We[1] refer to your letter (the **Letter**) dated 27 November 2024 enclosing: (i) a resubmitted/replacement Code Modification Report (the **November Report**) – dated 25 November 2024 - setting out a proposed modification of the Grid Code (the **Proposed Modification**) and (ii) supporting documents (to include Red Line and Green Line change documents) in respect of the Proposed Modification.

Read together, the Letter and the November Report stand as an application (the **Application**) - under Condition 16(3) of SONI's TSO licence[2] – for the Authority's approval of the Proposed Modification.

The Letter explains that the Report replaces the previous Grid Code Modification report submitted in June 2024 (**the June Report**). The June Report referred to a consultation (the **May Consultation**) published by SONI in May 2024: Grid Code Consultation on ESPS Phase 2 Modification | SONI Consultation Portal.

[1] In this letter the terms "we" "our" "us" "the UR" "the Utility Regulator" and the "Authority" are used interchangeably and refer to the Northern Ireland Authority of Utility Regulation.
[2] SONI Transmission System Operator - Updated Licence March 2025 | Utility Regulator

1. Decision on the Application

As, will be explained, it is the decision (the **Decision**) of the Authority to approve the Application, with the approval standing effective from the date of this letter.

2. Background

A useful summary of the background to the Application is set out in the Letter as follows:

"*A modification proposal was previously submitted [in the June Report] for SPID_03_2024 in order to incorporate the remaining Grid Code changes for Energy Storage Power Station (ESPS Phase 2).*

Following our [June Report] a small number of issues were highlighted by members of the EirGrid Grid Code Review Panel. These issues apply equally to the SONI Grid Code and are sufficiently material to warrant rectification. As a result, we hereby resubmit this [June Report] for your attention.

In addition to the proposed sections for modification which were highlighted in the [June Report] this resubmission includes updated proposals within:

1. *The Connection Conditions (CC) section.*
2. *The Scheduling and Dispatch Code (SDC) section.*

Proposed additional modification to the Connection Conditions section

It came to our attention that the [June Report] did not comply with certain requirements of the NCER and SOGL ENTSO Network Codes. In order to address these issues, we have added technical requirements for the disconnection of ESPSs under sustained low frequency conditions for ESPSs that are charging and are unable to automatically move into generation mode. These new requirements have been added to the Connection Conditions Schedule 2 CC.S2.1.11.4 (for Transmission connected ESPSs) and CC.S2.2.5.4 (for Distribution connected ESPSs). EirGrid have included similar drafting within their modification proposal to CRU.

Proposed additional modification to the Scheduling and Dispatch Code section

Conflicts within clause SDC1.4.8.7 have been corrected in this resubmission. Bearing in mind that the SDCs are under common governance, the equivalent clause has been updated in EirGrid's modification proposal to CRU."

3. Proposed Additional Modifications

It can be seen from the excerpted part of the Letter (above) that reference was made (there) to "*proposed additional modifications*" (the **Proposed Additional Modifications**).

The November Report includes Red Line and Green Line text showing the Proposed Additional Modifications (part of the Proposed Modification). The "Red Line" version of the textual changes associated with the Proposed Additional Modifications is shown in **Annex 1** to this document.

The Proposed Additional Modifications were not included in the May Consultation. They have, however, been the subject of requisite discussion within the (Joint) Grid Code Review Panel and have been authorised for progression by way of the making of the Application. It is not considered that there should be any further/wider consultation *viz*. the Proposed Additional Modifications in connection with our determination of the Application under Condition 16 of the TSO licence.[3]

4. Liaison with CRU

We have liaised with CRU on the Proposed Modification. Final discussion took place on 28 May 2025. We are aware that CRU has approved an analogue (the **Sister Modification Proposal**) of the Proposed Modification.

[3] This matches the way that CRU have dealt with the Sister Modification Proposal. The "CC" part of the Proposed Additional Amendments is made to bring better alignment with the applicable EU provision. The small change to the "SDC" part/s is made to correct a mistake.

5. December 2024 SEM-C decision

Consideration of the Application was deferred pending the making of and consideration of a December 2024 decision of SEMC on modification of the (SEM) Trading and Settlement Code. That decision is here: Mod_02_24DecisionLetter.pdf.

The Authority is content that the December 2024 SEMC decision does not prevent consideration or approval of the Proposed Modification (in the November Report). It is understood that CRU adopts the same position. Again, we note that CRU has decided to approve the Sister Modification Proposal.

6. Condition 16

Condition 16 of the SONI TSO licence confirms that SONI shall not action proposed modifications (revisions) to the Grid Code in the absence of the approval of the Authority. It also provides for the Authority to make appropriate directions about revisions to the Grid Code.

7. The basis of the Application

The basis of the Application is provided in the November Report (as further explained in the Letter). The November Report:

- Explains that the Proposed Modification would incorporate the Energy Storage Power Stations (**ESPS**) Unit type into additional sections of the Grid Code following a previous modification concerning ESPS Units approved by the Authority on 5 December 2023 (the **December 2023 Modification Approval**).[4]

- Explains the purpose of the December 2023 Modification had been to incorporate (a) version of 3 of the Battery ESPS Grid Code Implementation Note (produced by SONI and EirGrid) into the Grid Code and (b) SONI's Battery ESPS Compliance Test Procedures and SONI's Signal List for Battery ESPSs into the PPM Setting Schedule.

[4] Requested Modifications to the SONI Grid Code: ESPS | Utility Regulator (uregni.gov.uk).

- Records the submission of the June Report and the November Report (as summarised in the Letter) and notes that approval of the Application (for approval of the Modification Proposal) would conclude *"all changes required by the Scheduling and Dispatch Programme and will align with the requirements within the Trading and Settlement Code."*

- Explains that the Proposed Modification are related to alignment with the Scheduling and Dispatch Programme[5] by which ESPS Units are classed as *"non-RfG Generators that are capable of responding to positive or negative MW set points."*

- Confirms that the current version of the Grid Code includes the user type Energy Storage Power Station Demand, which classes ESPSs as Non-RfG Generating Units and non-DCC Demand Units.

- Confirms that review of the Grid Code determined ESPSs are solely non-RfG Generators.

- Contends that the Proposed Modification is necessary to ensure that (a) *"all remaining sections of the SONI Grid Code and the PPM Settings Schedule align with the requirements of the Battery ESPS Grid Code Implementation Note,"* and (b) that *"Grid Code requirements for Battery ESPS low frequency response align with the requirements of Article 15 of Commission Regulation (EU) 2017/2196."*

- Explains that SONI proposes to remove the term Energy Storage Power Station Demand from the Grid Code, mostly replacing it with 'Energy Storage Power Stations', or in limited instances, 'Energy Storage Power Station acting as demand'. This change is proposed to occur particularly in the Definitions section of the Grid Code.

- Explains that the SCD1-Appendix A table and the defined terms (of the Grid Code) are updated to align with the Scheduling and

[5] A SONI/EirGrid/SEMO Project to enhance the technology and capability of scheduling and dispatch, driven by renewables targets, European requirements, and needs of market participants.

Dispatch Programme. Changes to PC.A2 and PC.A3 provide details of the planning data requirements for ESPS Units.

- Explains that the Proposed Modification includes a change proposed to section OC4 (Demand Control) [of the Grid Code] so that it *"incorporates a requirement mandated by Article 15 of Commission Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration (NCER). Article 15 requires ESPSs acting as demand to disconnect or switch to exporting if the transmission system experiences an under-frequency event."*

- In respect of the Proposed Additional Modifications explains that they:

  (a) were motivated by consideration of the Sister Modification Proposal within the EirGrid Grid Code Review Panel
  (b) correct a clause within Scheduling and Dispatch Code 1 (SDC1.4.8.7 (a)) to reflect concerns expressed that synchronisation/de synchronisation instructions were being mistakenly applied to ESPS Units; with the rewording removing the application of these instructions to ESPSs
  (c) address concerns viz., the proposed requirement in the June Report that ESPSs acting as demand disconnect or switch to exporting if the transmission system experiences an under-frequency event and whether what was compatible with Commission Regulation 2017/2196 (the Network Code on Electricity Emergency and Restoration (**NCER**))[6] noting that the under-frequency event posited in the June Report was in the range 47Hz to 50HZ
  (d) explain that the concerns as to NCER are addressed by the inclusion of technical requirements within the Connection Conditions (CC.S2.1.11.4 and CC.S2.2.5.4) in the November Report/Application (which sets the relevant parameter below 49.5 Hz).

- recommends that the Authority approve the Proposed Modification in its entirety, as it would

[6] COMMISSION REGULATION (EU) 2017/ 2196 - of 24 November 2017 - establishing a network code on electricity emergency and restoration.

(a) enable the efficient operation of the Northern Ireland Transmission System
(b) support the objectives of the Grid Code by facilitating competition, promoting efficiency in the implementation and administration of Grid Code arrangements
(c) support the efficiency and security of the transmission system.

8. Decision

Again, our Decision is to Approve (under Condition 16 of the SONI TSO Licence) the Proposed Modification (to include the Additional Proposed Modifications) as explained in the November Report.

In making the Decision we have had regard:

(i) the matters referred to above
(ii) the framework provided by Condition 16
(iii) the December 2023 Modification Approval
(iv) The making of the CRU approval on the Sister Modification Proposal.
(v) our statutory principal objective and general duties (as applicable) under Art 12 of the Energy (NI) Order 2003 (**Art 12**)

The Authority considers that approval of the Proposed Modification is aligned with its Art 12 responsibilities which include an obligation to have regard to the need to secure that all reasonable demands for electricity are met.

In basic summary we consider the Application as well-founded for the reasons set out in the November Report to include, importantly, to facilitate the attainment of the objectives (for the Grid Code) set out in Condition 16(1) of the Licence.

As stated in the December 2023 Approval the Authority recognises ESPS Units are already on the system, and their number is likely to increase. The Proposed Modification provides greater clarity for system users, by modifying the Grid Code to insert the ESPS term at the appropriate points.

Moreover, the Proposed Modification is a continuation of work conducted under the December 2023 Approval. Orderly evolution of the Grid Code is an important means by which the interests of consumers (in security of supply) are protected.

To the extent that might be considered necessary the Authority hereby directs SONI (in accordance with paragraph 4 of Condition 16 of the SONI TSO Licence) to revise the Grid Code in the manner reflected in the Proposed Modification.

The approval now granted shall be effective from the date of this letter. Please proceed to publish an updated version of the Grid Code on SONI's website.

This Decision will be entered on the electricity register and published in the normal way

We trust this is satisfactory.

Should you have any further queries please contact Jody O'Boyle.

Yours sincerely,

Jillian Ferris

Head of Networks
Duly authorised by the Authority

Enclosure: Annex A

Annex A – Proposed Additional Modifications

Additions to Connection Conditions Section

CC.S2.1.11.4 (a) Energy Storage Power Stations that cannot switch to Generation during a low Frequency event shall be capable of automatic low Frequency Demand Disconnection where the steady state System Frequency falls below 49.5 Hz for a sustained period of more than 1 minute.

(b) Such Energy Storage Power Stations shall be made subject to automatic low Frequency Demand Disconnection at the TSO's direction, only when the Energy Storage Power Station is acting as Demand.

(c) The specific performance requirements of the automatic low Frequency Demand Disconnection scheme for such Energy Storage Power Stations shall be specified and agreed with the TSO.

(d) The automatic low Frequency Demand Disconnection scheme shall allow for operation from a nominal AC input to be specified by the TSO, and shall meet the following functional capabilities:

(i) Frequency range: where the steady state System Frequency falls below 49.5 Hz for a sustained period of more than 1 minute;
(ii) Operating time: no more than 150 ms after triggering the Frequency setpoint;
(iii) Voltage lock-out: blocking of the functional capability shall be possible when the Voltage is within a range of 30 to 90 % of reference 1 p.u. Voltage; and
(iv) Provide the direction of Active Power flow at the point of Disconnection.

CC.S2.2.5.4 (a) Energy Storage Power Stations that cannot switch to Generation during a low Frequency event shall be capable of automatic low Frequency Demand Disconnection where the steady state System Frequency falls below 49.5 Hz for a sustained period of more than 1 minute.

(b) Such Energy Storage Power Stations shall be made subject to automatic low Frequency Demand Disconnection at the TSO's direction, only when the Energy Storage Power Station is acting as Demand.

(c) The specific performance requirements of the automatic low Frequency Demand Disconnection scheme for such Energy Storage Power Stations shall be specified and agreed with the TSO.

(d) The automatic low Frequency Demand Disconnection scheme shall

allow for operation from a nominal AC input to be specified by the TSO, and shall meet the following functional capabilities:

(i) Frequency range: where the steady state System Frequency falls below 49.5 Hz for a sustained period of more than 1 minute;
(ii) Operating time: no more than 150 ms after triggering the Frequency setpoint;
(iii) Voltage lock-out: blocking of the functional capability shall be possible when the Voltage is within a range of 30 to 90 % of reference 1 p.u. Voltage; and
(iv) Provide the direction of Active Power flow at the point of Disconnection.

Update to Scheduling and Dispatch Code Section (highlighted text)

*The **Synchronising** and **De-Synchronising** times (and, in the case of **Pumped Storage Plant Demand** and **Energy Storage Power Station** ~~**Demand**~~, the relevant effective time) shown in the **Indicative Operations Schedule** are indicative only and it should be borne in mind by **Users** that the **Dispatch Instructions** could reflect more or different **CDGU**, **Aggregated Generating Unit** and/or **Controllable PPM, Pumped Storage Plant Demand**, ~~**Energy Storage Power Station Demand**~~ and/or **Aggregate Generating Unit** requirements than in the **Indicative Operations Schedule**. With the exception of an **Energy Storage Power Station**, **t**~~T~~he **TSO** may issue **Dispatch Instructions** in respect of any **CDGU** and/or **Aggregated Generating Unit**, **Controllable PPM, Pumped Storage Plant Demand**, ~~**Energy Storage Power Station Demand**~~ or **Aggregated Generating Unit** which has not declared an **Availability** or **Demand Side Unit MW Availability** of 0 MW in an **Availability Notice**. **Users** with **CDGUs** and/or **Aggregated Generating Units**, or **Controllable PPM**, ~~**Pumped Storage Plant Demand** or **Energy Storage Power Station Demand**~~ shall ensure that their units are able to be **Synchronised**, or in the case of **Pumped Storage Plant Demand** and **Energy Storage Power Station**, used at the times **Scheduled**, but only if so **Dispatched** by the **TSO** by issue of a **Dispatch Instruction**. **Users** shall, as part of a revision to the **Technical Parameters**, indicate to the **TSO** the latest time at which a **Dispatch Instruction** is required to meet the scheduled **Synchronising** time or in the case of **Pumped Storage Plant Demand** or **Energy Storage Power Station** ~~**Demand**~~, the **Scheduled** relevant effective time.*