



**Failure to Follow Synchronising Instruction  
Grid Code Amendments Consultation Paper  
23 May 2012**

**1. Introduction**

- 1.1 Following the modification proposal MPID 223 as presented by SONI and EirGrid at the Joint Grid Code Review on 23 February 2012 in Belfast, relating to changes to the Scheduling and Dispatch Code (SDC) that arise as a result of clarifications needed to the “Failure to Follow Notice to Synchronise” proposals introduced into the Grid Code as part of the proposals that were implemented in early 2011, and following the examination of the language on the Failure to Follow Notice to Synchronise in the Grid Code and discussions held at the Joint Grid Code Review on 23 February 2012 in Belfast, SONI and EirGrid have prepared drafts of certain sections of the Grid Code with proposed amendments to cover the issues raised regarding ambiguities in the original “Failure to Follow Notice to Synchronise” proposals.
- 1.2 The proposed amended texts of the Grid Code, with both clean and redlined versions of each relevant section showing all the changes made to the existing versions of the Grid Code, can be found in the “Grid Code Drafts” section of SONI’s website and in the “Grid Code Consultations” section of the EirGrid’s website. This consultation paper sets out a high-level summary of the proposed changes to the Northern Ireland Grid Code and EirGrid Grid Code and both SONI and EirGrid seek comments from Users on any aspect of the proposed amendments.
- 1.3 Section 2 has been included as a result of the discussion mentioned in paragraph 1.1 and sets out several examples showing SONI’s and EirGrid’s, as the Transmission System Operators (TSOs’), rights from the relevant Grid Code in respect of stipulating the technical characteristics of a generator: section 2A shows SONI’s rights under the Northern Ireland Grid Code and section 2B shows EirGrid’s rights under the EirGrid Grid Code. Section 3 of this paper provides background information and a general overview of the proposed changes and section 4 provides a section-by-section overview of the proposed changes. As explained in sections 5.1 and 5.2, the deadline for submission of comments to SONI and EirGrid is **close of business on Thursday 21<sup>st</sup> June, 2012.**

**2. TSO Rights to Declare the Technical Characteristics of a Generator under Grid Code**

***Section 2A: SONI’s Rights under the Northern Ireland Grid Code***

- 2.1 SONI, as the Transmission System Operator (TSO) in Northern Ireland, is responsible for the safe, secure and efficient operation of the Northern Ireland Transmission network. Pursuant to condition 16(1) of its System Operator’s licence, SONI is obliged to implement and comply with a Grid Code which is, in respect of the transmission system, designed “to permit the

development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity in Northern Ireland”.

- 2.2 This obligation requires SONI to examine and, at times, challenge the declarations of system users. Through a combination of prudent system operation and ongoing performance monitoring, the spirit and intention of the Grid Code and of the legislation allow the TSO the ability to decide about the compliance of users and plant with Grid Code requirements.
- 2.3 There are various sections of the Grid Code where these powers are evident. Some examples of these are set out.
- 2.4 Prudent Operating Practice is a defined term in the Grid Code:

In relation to a **User** or the **TSO**, the standard of practice attained by exercising that degree of skill, diligence, prudence and foresight which could reasonably be expected from a skilled and experienced operator engaged in the same type of undertaking under the same or similar circumstances.

- 2.5 Prudent Operating Practice is used throughout the Grid Code and is used as a guiding principle when the TSO has to make a decision on, or interpretation of, matters relating to the Grid Code including when Generators are planning Outages (OC2.5.3) and the repair and restoration of applicable parts ( OC2.6.6.2):

OC.2.5.3(a) In relation to all matters to be undertaken pursuant to this OC2, including (without limitation) making requests for **Outages** and supplying information to the **TSO** concerning overruns, each **Generator** must act reasonably and in good faith. Without limitation to such obligation, each **Generator** shall act in accordance with **Prudent Operating Practice** in planning its **Outages** and, in particular, so as to avoid a situation arising in which the **Generator** is obliged to request an **Outage** during the **Outage Planning** process by reason of obligations imposed upon the **Generator** by statute as a consequence of the **Generator** not having planned its **Outages** in accordance with **Prudent Operating Practice**, for example, by not having planned its **Outages** sufficiently far in advance of any statutory time limit.

- 2.6 OC 2.6.6.2 Pursuant to and subject to SDC1.4.3, a **Generator** shall use all reasonable endeavours to ensure that, following a **Forced Outage**, the **CDGU** (or in the case of a **CCGT Installation, CCGT Module(s)** therein), and/or Dispatchable WFPSs and/or Controllable WFPS (or Generating Unit(s) therein) or item of **Power Station Equipment** (as the case may be) is repaired and restored to its full level of **Availability** as soon as possible and in accordance with **Prudent Operating Practice**. Of which this also applies to **Interconnector Owners** also.
- 2.7 PC.A.3.4.1 (and similar wording is included in PC.B3.3.1 and PC.C.7) “Alternative/Additional Data” establishes the ability of the TSO to question the accuracy of data submitted by a user, and its ability to seek additional information.

PC.A.3.4.1 Notwithstanding the **Standard Planning Data** and **Detailed Planning Data** set out in this Appendix; the **TSO** may reasonably require additional data from **Users** to represent correctly the performance of **Plant** and **Apparatus** on the **Transmission System** where the present data submissions would, in the **TSO’s** reasonable opinion, prove insufficient for the purpose of producing meaningful system studies for the relevant parties.

- 2.8 OC11 (*Testing, Monitoring and Investigation*) of the Grid Code establishes the TSO's right to monitor, test, and investigate the performance of plant, including compliance with dispatch instructions (OC11.2). OC11.5 describes the standards and processes around non-compliance with dispatch instructions:
- OC11.5.1 **Monitoring** may be carried out at any time by the **TSO** and involves the analysis of the output of **Monitoring** equipment (as required or permitted under the **CC** and/or relevant **Connection Agreements** and/or the **MC**), which is relayed to the **TSO**, which shows the output and/or performance of the **CDGU**, and associated **Equipment** in order to see whether the **CDGU**, is complying with its **Dispatch Instructions**.
- 2.9 Pursuant to OC 11.5.3, Monitoring may result, in a Warning Notice being issued to User regarding non-compliance. The TSO will allow the User 10 minutes after such a notice to comply with the Dispatch Instruction. If the User fails to comply with the Dispatch Instruction then the TSO may submit a Monitoring Notice identifying which Dispatch Characteristics are being Monitored and the underlying Technical Parameters and specify the relevant Tolerance Band to be used (OC11.5.3(c)). In accordance with OC11.5.3(d), the User has the right before the issue of this Monitoring Notice to submit to the TSO an Availability Notice, a Technical Parameters Notice or a Technical Parameters Revision Notice to re-declare Availability or the Technical Parameters in respect of the Dispatch Characteristics which are to be Monitored.
- 2.10 As part of the consequences of monitoring and post-notice events, OC11.5.4 (a) states: "At the end of the period of **Monitoring** if the **User** has achieved each **Dispatch Instruction** for the period of **Monitoring** within the relevant **Tolerance Band**, the **CDGU** will be deemed to have complied with each **Dispatch Instruction**."
- 2.11 In addition to the provision in SDC (referred to in para 2.22 below), there are also powers given to the TSO to monitor and change registered data as they see fit. An example is in OC11.5.4(b):
- OC11.5.4(b) If the average value of the **Dispatch Characteristic(s)** in any 5 minute period during the period of **Monitoring** falls outside the relevant **Tolerance Band** the **TSO** may by submitting a **Post Event Notice** to the **Generator** re-register the value of **Availability** or of the relevant **Technical Parameter** corresponding to that **Dispatch Characteristic** to the most inferior value outside the **Tolerance Band** for any 5 minute period during the period of **Monitoring** (with effect from the **Trading Period** in which the **Monitoring Notice** was issued) and the **TSO** may also notify the **Generator** not later than 10 minutes before the end of the period of **Monitoring** that it will continue to **Monitor** the **CDGU** for a further period not exceeding that shown in the relevant Table in the Appendix to this OC11 Part A in respect of the particular **Dispatch Characteristic** and with reference to the relevant or selected **Tolerance Band**.
- 2.12 In OC11.5.4 if the average output parameters e.g. value of Dispatch Characteristics, average value of Output, average value of Activity Power does not fall within the parameters then the TSO may issue a Post Event Notice registering the CDGU at a level consistent with the average, in accordance with OC 11.5.3(d), if this is provided at or about the same time pursuant to OC 11.5.4 and OC 11.5.5, the value of the Availability shall be deemed to be re-declared to the inferior of the values specified in the two notices.

***Section 2B: EirGrid's Rights under the EirGrid Grid Code***

- 2.13 EirGrid is mandated to operate a safe, secure, and economic power system under SI445 (2000). It is also mandated to ensure the availability of system services necessary for it to carry out its functions.
- 2.14 In practice, this requires EirGrid to examine and challenge the declarations of system users at times. Through a combination of prudent system operation, and ongoing performance monitoring, the spirit and intention of the Grid Code and of the legislation imbue the TSO with the ability to reach conclusions about the compliance or otherwise of users and plant with Grid Code requirements.
- 2.15 There are various sections of the Grid Code where these powers are evident, with some examples given below.
- 2.16 Prudent Utility Practice is a defined term in the Grid Code: “Those standards, practices, methods and procedures conforming to safety and legal requirements which are attained by exercising that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from skilled and experienced operatives engaged in the same type of undertaking under the same or similar circumstances.”
- 2.17 Prudent Utility Practice is mentioned many times throughout the Grid Code, and is used as a guiding principle when the TSO has to make a decision on, or interpretation of, things related to the Grid Code. Thus prudence must be used when operating the system, as shown by CC.8.1, or when ensuring that there is an adequate operating margin, as shown by OC4.6.1.2:

CC.8.1 The **TSO** shall in accordance with **Prudent Utility Practice** plan, design and operate the **Transmission System** so as to endeavour to maintain the performance targets at the **Connection Point** as set out in this CC.8.

OC4.6.1.2 The **Operating Margin** is the amount of reserve (provided by additional **Generation** or **Demand** reduction measures) available above that required to meet the expected **System Demand**. **Prudent Utility Practice** requires that a continuum of **Operating Margin** is provided to adequately limit, and then correct, the potential **Frequency** deviation which may occur due to a **Generation/Demand** imbalance.

- 2.18 Section PC.8 “Validation and Verification of Data” establishes the ability of the TSO to question the accuracy of data submitted by a user, and the ability to seek additional information.

PC.8.1 Where a **User** submits data, which in the opinion of the **TSO** (or in its opinion following referral with the **Other TSO**) is incorrect then the **TSO** may request that that **User** supply such additional information as the **TSO** deems necessary to verify the accuracy of the data.

PC.8.2 Where, following consideration of such information submitted under PC.8.1, the **TSO** maintains (or maintains following referral with the **Other TSO**), acting reasonably, that the additional information is insufficient to verify the accuracy of the original data then the **TSO** may request that the **User** carry out specific **Tests** to verify the data. Where such a **Test** or **Tests** are requested, they will be subject to the provisions of the relevant operational codes.

- 2.19 Section OC10 of the Grid Code establishes the TSO’s right to monitor, test, and investigate the performance of plant, including compliance with dispatch instructions (OC10.4.4.1). Section OC10.7.1 describes the standards and processes around non-compliance with dispatch instructions. In particular, it should be noted that under OC10.7.1.6, the TSO has the right to

over-ride a generator's declaration in respect of availability, AS capabilities, or operating characteristics.

OC10.4.3 **Monitoring** may be carried out at any time by the **TSO** and may result, without the application of further **Testing**, in the evaluation by the **TSO** of **User** non-compliance. Where the **User** disputes a finding of non-compliance, the **TSO** shall provide the **User** with any data collected during **Monitoring** over the period of alleged non-compliance and such other documentation as is reasonably necessary to show evidence of non-compliance.

OC10.7.1.6 Where the **TSO**, acting reasonably, is of the view that a disputation given by a **Generator, Interconnector Operator, Dispatchable Demand Customer or Generator Aggregator** is not valid or not wholly valid or if the **Generator, Interconnector Operator, Dispatchable Demand Customer or Generator Aggregator** has not replied in accordance with OC10.7.1.2, the **TSO** shall inform the **Generator, Interconnector Operator, Dispatchable Demand Customer or Generator Aggregator** that it is overriding, by means of a **Post Event Notice, the Generator's Declaration or Interconnector's Declaration** in respect of the **Availability, Ancillary Service capabilities or Operating Characteristics** of the **Generation Unit or Interconnector** as appropriate. The **Post Event Notice** shall govern until such times as the **Generator, Interconnector Operator, Dispatchable Demand Customer or Generator Aggregator** submits a revised **Availability Notice**.

- 2.20 Where a generator fails to synchronize at the specified time, and which continues to fail to synchronize over the course of the following hour, it, could put the system in jeopardy and it would not be prudent for EirGrid to operate the system in that way. EirGrid believes that the Grid Code is clear in giving the TSO the right to re-declare a generator down to zero if it has failed to synchronize within 15 minutes of the synchronizing time. This 15 minute period includes 5 minutes leeway around the specified synchronizing time, following which a warning for non-compliance with a dispatch instruction is issued (SDC2.A.4.1.4). OC10.7.1.2 of the EirGrid Grid Code gives a further 10 minutes to comply with the dispatch instruction following the issue of the warning. This totals to 15 minutes. Beyond this time, the generator has no right to synchronize.

### *Section 2C: TSOs' Interpretation of Grid Code*

- 2.21 The TSOs believe that prudent system operation is within each of its core remit, and this remit extends to ensuring an adequate operating margin and operating reserve at all times, in addition to managing the supply/demand balance. There are powers given to the TSO to monitor and change registered data as they see fit such as in OC11.5.4(b) of the Northern Ireland Grid Code and OC10.7.1.2 of the EirGrid Grid Code (both referred to above).
- 2.22 Where a Generator has not synchronised within the required time, SDC2.A.4.1.5 of both the Northern Ireland Grid Code and the EirGrid Grid Code make it clear that such generator has no right to synchronize beyond this time.

SDC2.A.4.1.5 When in respect of a **CDGU** a **Generator** receives a **Failure to Follow Notice to Synchronise Instruction** the original **Notice to Synchronise** is deemed never to have been issued and the **CDGU** is not entitled to **Synchronise**. The **TSO** will then decide whether or not to instruct again the **Generator to Synchronise** the **CDGU**, and will notify the **Generator** in relation to that **CDGU** accordingly.

- 2.23 In addition, SDC1.4.3.2 establishes that the TSOs have the power to reject declarations from generators if they cannot be achieved at that particular time:

SDC1.4.3.2 Each **Generator**, and where relevant each **Generator Aggregator**, shall, subject to the exceptions in SDC1.4.3.3, use reasonable endeavours to ensure that it does not at any time declare in the case of its **CDGU**, **Controllable WFPS**, or **Aggregated Generating Unit**, the **Availability** or **Technical Parameters** at levels or values different from those that the **CDGU**, **Controllable WFPS**, and/or an **Aggregated Generating Unit** could achieve at the relevant time. The **TSO** can reject declarations to the extent that they do not meet these requirements.

- 2.24 In summary the TSO's maintain their right to question and, where in their opinion consider incorrect, to alter the declarations of any third party User of the system, including generators. Such changes may only be made in accordance with appropriate processes and consistent with prudent system practice.

### 3. Background and overview

- 3.1 A modification to the Grid Code in Northern Ireland and Ireland in respect of instructions that may be given to Generators when they fail to follow a Notice to Synchronise or if a CDGU trips before reaching Minimum Generation was consulted on jointly by SONI and EirGrid in April 2010, and then approved by Northern Ireland Authority for Utility Regulation (the "Authority") and the CER (Commission for Energy Regulation in Ireland) in early 2011 ("2011 Modification"). The 2011 Modifications included amendments to SDC2.4.2.11 and SDC2.A.4.1.
- 3.2 The 2011 Modification introduced the definition of "Failure to Follow Notice to Synchronise Instruction" which is a notice to be given when a CDGU fails to Synchronise within 5 minutes after the Synchronising time in the relevant Notice to Synchronise. The Generator is not entitled to Synchronise after it receives a Failure to Follow Notice to Synchronise Instruction unless dispatched to do so by the TSO (and therefore the Generator may not recover any start-up costs already incurred).
- 3.3 Following the approval of the 2011 Modification by the Authority, SONI and EirGrid circulated a business process which reflected the 2011 Modifications. Since this time, a number of parties have raised the issue of the discrepancies between the business process and SDC2.4.2.11 "Actions Required from Users" which states that generators only have to re-declare availability if the unit fails to synchronise 15 minutes after the original synchronise time. Primarily, the time the Generator has to Synchronise before being considered to be unavailable and hence required to re-declare availability for the unit in the 2011 Modification (5 minutes of the synchronising time) assumed that the unit would be unavailable once it had failed to follow the instruction to synchronise. In view of the issues raised by some Users, SONI and EirGrid have proposed that the elapsed time before a re-declaration has to be made be extended from 5 to 15 minutes.
- 3.4 The proposed modification is consistent with the existing provisions around failure to synchronise included in the Grid Code. As part of its obligations to ensure an adequate operating margin and operating reserve at all times, SONI and EirGrid require that Generators synchronise within 15 minutes of the synchronizing time and gives SONI and EirGrid the right to re-declare the Generator to 0 MW if the Generator has failed to synchronize within this time. In accordance with OC11.5.3 of the Northern Ireland Grid Code, a Generator is allocated 10 minutes to rectify a non-compliance with a Dispatch Instruction. Accordingly, where the

Generator has not synchronised the unit within 5 minutes of the Notice to Synchronise, the Generator would then have another 10 minutes to rectify synchronisation. If the unit was not synchronised by this time, the unit must be declared to 0 MW. Similarly the EirGrid Grid Code (section OC10.7.1.2) allows the Generator 10 minutes to rectify a non-compliance. If a strict monitoring process was to be applied the Generator would be deemed to have failed to comply with an instruction if it had not synchronised the unit within 5 minutes of the original instructed time. The generator would then have another 10 minutes to rectify the situation (i.e. synchronise) or else they have failed to comply with the instruction and must declare the unit unavailable.

- 3.5 The Generator may not synchronize later than 15 minutes after the Notice to Synchronise has been issued as is made clear in SDC2.A.4.1.4:

SDC2.A.4.1.5 “When in respect of a CDGU a **Generator** receives a **Failure to Follow Notice to Synchronise Instruction** the original **Notice to Synchronise** is deemed never to have been issued and the **CDGU** is not entitled to **Synchronise**. The **TSO** will then decide whether or not to instruct again the **Generator to Synchronise** the **CDGU**, and will notify the **Generator** in relation to that **CDGU** accordingly.”

- 3.6 Some parties raised the issue of ambiguity in the language of the Grid Code SDC2.4.2.11 (d) and (e). In accordance with SDC2.4.2.11 (d) the **CDGU** must inform the relevant TSO if it cannot synchronise within 10 minutes and failure to synchronise within 15 minutes of the original synchronising time constitutes a Short-Notice Re-declaration. Some parties felt that reading SDC2.4.2.11 (d) alongside SDC2.4.2.11 (e) was unclear. SDC2.4.2.11 (e) stipulated that failure to synchronise within 1 hour of the original synchronising time constitutes a re-declaration and the differences between SDC2.4.2.11 (d) and (e) are seen to be inadequately defined in the Grid Code. Further, the 2011 Modification did not reflect that no unit should synchronise more than 5 minutes after the time in the relevant instruction is issued to it by the relevant TSO and the proposed amendments to SDC2.4.2.11 aim to remove this ambiguity in the Grid Code.
- 3.7 Based on discussions with Generators, it has also been agreed that relevant TSO would be able to request that a Generator synchronises a unit earlier than its Notice to Synchronise. In such a case, the Notice to Synchronise time would reflect the actual synchronising time. For completeness, the proposed modification to SDC2 reflects this agreement in the Grid Code.

#### 4. Section by section review

- 4.1 The modifications proposed concern amendments to SDC2.4.2.11 (Action Required from Users) and SDC2.A.4 (Dispatching a CDGU to Synchronise/de-Synchronise) of the Scheduling and Dispatch Code and make a corresponding deletion of the definition of “Short Notice Re-declaration” from the Glossary and Definitions section in the Northern Ireland Grid Code and the EirGrid Grid Code.
- 4.2 The proposed modifications aim to remove the ambiguity in the language of the Grid Code between synchronising and synchronising time. Whereas currently, in SDC1 and SDC2.4.2.11 the term Synchronising time refers to the time at which the unit is to Synchronise but in SDC2.A.4.1 it refers to the time required by the CDGU to Synchronise (i.e. the start up time), the proposed modification to SDC2.A.4.1 would use the defined term Synchronous Start Up Time. Accordingly in SDC2.4.2.11(c) the proposal is to amend the time by which the TSO estimates that the relevant CDGU will not be synchronised within +10 minutes of the instructed time to be +15/-5 minutes of the instructed. Amendment to SDC4.2.11 (d) would mean that a CDGU that has not synchronised within 15 minutes of the Synchronising time will be required

to re-declare availability for that CDGU to 0MW and removes the concept of a “Short Notice Re-declaration”. Accordingly, SDC4.2.11 (e) which would become redundant and would be deleted from the Grid Code.

- 4.3 The definition of “Short Notice Re-declaration” would also need to be deleted from the Glossary and Definitions section in the Northern Ireland Grid Code and the EirGrid Grid Code.
- 4.4 In the proposals to SDC2.A.4 (Dispatching a CDGU to Synchronise/de-Synchronise), minor amendments are proposed to SDC2.A.4.1.1, SDC2.A.4.1.4 to clarify that Synchronising time refers to the time the unit synchronises and Synchronous Start Up Time refers to the notice time required. The proposed modifications also clarify that the TSO would have regard for the CDGU’s Synchronous Start-Up Time that failure by the CDGU to Synchronise within 15 minutes after the Synchronising time specified in a Notice to Synchronise, will result in the TSO issuing a Failure to Follow Notice to Synchronise Instruction.
- 4.5 A new SDC2.A.4.1.7 is proposed which allows the TSO to request a CDGU to use its best endeavours to Synchronise earlier than the declared Synchronous Start Up Time. If the Generator synchronises earlier than the declared Synchronous Start Up Time, the TSO would adjust its synchronising instruction to use the actual synchronising time.

## 5. Next Steps

### 5.1 In Northern Ireland:

- 5.1.1 The consultation period has been set for 4 weeks. Users are invited to send their comments to SONI **by close of business on Thursday 21<sup>st</sup> June, 2012**. In the meantime, should any Users have any queries or require a meeting with SONI, they should contact Ian Stevenson at SONI (Email: Ian.Stevenson@soni.ltd.uk , Phone: 028 9070 7586).
- 5.1.2 Following receipt of comments from those whom it has consulted by this Consultation Paper and the expiration of the period for making comments, SONI will, in accordance with paragraph 2 of Condition 16 of its Licence, send to the Northern Ireland Authority for Utility Regulation (the “Authority”):
  - (a) a report on the outcome of its review;
  - (b) the proposed revisions to the Grid Code which SONI (having regard to the outcome of such review) reasonably thinks fit for the achievement of the objectives of the Grid Code referred to in paragraph 1(b) and (c) of Condition 16 of the SONI Licence; and
  - (c) any written representations or objections from electricity undertakings or the Republic of Ireland System Operator (including any proposals by such persons for revisions to the Grid Code not accepted by SONI in the course of the review) arising during the consultation process and subsequently maintained.
- 5.1.3 Following the end of the consultation period, revisions to the Grid Code will be finalised and published on the SONI website once approval has been received from the Authority.

## 5.2 In Ireland:

- 5.2.1 The consultation period has been set for 4 weeks. Users are invited to send their comments to EirGrid **by close of business on Thursday 21st June, 2012**. In the meantime, should any Users have any queries or require a meeting with EirGrid, they should contact Arlene Chawke at EirGrid (Email: [Arlene.Chawke@eirgrid.com](mailto:Arlene.Chawke@eirgrid.com), Phone 01 2370129)
- 5.2.2 Following receipt of comments from those whom it has consulted by this Consultation Paper and the expiration of the period for making comments, EirGrid will compile and send to the Commission for Energy Regulation:
- 5.2.3 Any written representations or objections from electricity undertakings or the Republic of Ireland System Operator arising during the consultation process and subsequently maintained
- 5.2.4 Following the end of the consultation period, revisions to the Grid Code will be finalised and published on the EirGrid website once approval has been received from the Regulator.