

Mr Jag Basi
Coolkeeragh ESB,
27 Lower Fitzwilliam Street
Dublin
DO2 KT92
Ireland

19 March 2024

Our Ref – NET/E/DH/897

Dear Mr Basi

Re: Derogation request from clauses CC.S1.1.3.8; SDC3.4.1.1(a); SDC3.6.1; and SDC1.4.8.10 of the SONI Grid Code¹ in respect of the C30 CCGT unit at Coolkeeragh Power Station.

I write in response to your letter dated 15 July 2022 and your follow up letter dated 8 November 2022.

Each letter² seeks an extension/further derogation/s (**the Derogation Request**) to the previous derogation/s granted by the Authority³ to Coolkeeragh ESB (**CESB**) by way of direction dated 19 June 2020⁴ (Ref: NET/E/TH/225: **the June 2020 Direction**) in reference to the CESB C30 Combined Cycle Gas Turbine (**CCGT**). This letter should be read with the June 2020 Direction.⁵

The Derogation Request seeks a direction – under Condition 4(2) of the licence held by CESB (**the CESB Licence**) relieving CESB of its obligation (under Condition 4(1) of the CESB Licence) to comply with the following provisions of SONI Grid Code (**the Grid Code**):

CC.S1.1.3.8

A Generating Unit must be capable of remaining Synchronised to the NI System at an Output which is no greater than the lower of 80 MW or 40% of maximum continuous rating.

SDC3.4.1.1(a)

All CDGUs and Controllable PPMs must be capable of operating at all times in Frequency Sensitive Mode (including, where applicable, with the Unit Load Controller in operation) which term means an automatic incremental or decremental generation response (Primary Operating Reserve) to contain the initial NI System Frequency

¹ This is the Grid Code established by SONI in compliance with Condition 16 of SONI's TSO Licence and approved from time to time/periodically by the Authority. The current version of the Grid Code is published on the SONI website.

² The 8 November letter was submitted in response to an error identified in the 15 July letter.

³ In this letter the terms "us" "we" "our" "UR" and "Authority" are used interchangeably and refer in each case to the Northern Ireland Authority for Utility Regulation.

⁴ [2020-06-19 SONI Derogation Letter \(CESB Derogation\).pdf \(uregni.gov.uk\)](#)

⁵ [Coolkeeragh ESB Derogation | Utility Regulator \(uregni.gov.uk\)](#)

change together with a sustained generation response (Secondary Operating Reserve) which can contribute to containing and correcting the NI System Frequency within the statutory requirements for Frequency Control.

SDC3.6.1

If NI System Frequency rises to or above 50.2 Hz, each Generator at its Generating Plant will be required to ensure that each of its CDGUs and Controllable PPMs has responded in order to contribute to containing and correcting the high System Frequency by automatically or manually reducing output by a minimum amount of 2% and by a maximum amount of 5% of Generating Plant output per 0.1 Hz deviation of NI System Frequency from target NI System Frequency.

SDC1.4.8.10

It is a requirement for running the Transmission System that all Synchronised CDGUs and/or Controllable PPMs shall at all times be capable of reducing MW Output sufficient to allow a sufficient Regulating Margin for adequate Frequency Control. The TSO will monitor the MW Output data of the Indicative Operations Schedule against forecast of System Demand on the Island of Ireland to see whether the level of regulation for any period is sufficient and may take any shortfall into account in Scheduling and Dispatch.

Background

- 1.1. The C30 unit is a CCGT within CESB's Coolkeeragh Power Station. The registered capacity of C30 is 425MW.
- 1.2. The required performance for Minimum Generation of C30, based on 40% of the maximum continuous rating (425MW), is 170MW.
- 1.3. CESB sought and was by the June 2020 Direction granted a direction as follows (replacing an earlier March 2006 Derogation):

That, pursuant to Condition 4(2) of the Licence, for the period commencing on 00.00 GMT on 20 June 2020 and ending 00.00 GMT on 1 April 2022 (the relevant period') [CESB] is relieved (to the following extent) of its obligation under Condition 4(1) of its Licence to comply with the following provisions of the Grid Code as they apply to its C30 Unit:-

(i) Clause CC.1.3.8 to the extent that the Licensee shall instead comply with that clause of the Grid Code as if the requirements of that clause instead provided for (and permitted) the Licensee to operate its C30 Unit so that it must be capable of remaining Synchronised to the NI System at an Output which is no greater than (i.e. at a minimum generation level of) 80 MW for two 12 hour periods per year, and for the rest of the year 211 MW in CCGT mode and 154 MW in OCGT mode. Operation of the CCGT in OCGT mode shall only be required under emergency conditions or periods of low load on the NI System, in each case as determined by NIE Networks and/or SONI;

AND (ii) Clause SDC3.4.1.1(a); Clause SDC3.6.1; and **Clause SDC1.4.8.10**, in each case to the extent of when, and only when, the C30 Unit is operating at or below a load point of 234MW.

- 1.4. Further explanation of the background to the making of the June 2020 Direction can be found in the published decision letter accompanying the June 2020 Direction⁶

2. The Derogation Request

- 2.1. CESB is now seeking an extension of the June 2020 Direction, noting that the C30 unit will - even if a further derogation is granted - continue to respond to deviations in system frequency limited to the Minimum Generation level **of 211MW**.

- 2.2. In support of the Derogation request CESB states:

“In order to maintain combustion stability and therefore avoid the risk of the unit (C30) tripping, the gas turbine control system is required to switch operation mode when combustion conditions and therefore generation output fall below OEM defined levels.

This switch in combustion modes translates to generation output for the overall CCGT unit of below 211MW, this low load combustion mode below this principally relates to the unit start up is not designed for continuous operation and results in highly evaluated levels of NOx emission.

Therefore, in order for C30 to operate in-line with the conditions of its environmental licensing and planning consents it is necessary to operate the unit so as to avoid triggering a switch in combustion mode.”

- 2.3. CESB confirms that the duration of the further derogation sought is “5 years”. CESB states that:

“This time would allow for further operational experience to be gained at the load level of 211MW and for the opportunity to carry out further reviews to assess if compliance can be achieved.”

- 2.4. In further support of its request, CESB has stated the following: -

Impact and risk of non-compliance on consumers: “The continuation of the derogation of Minimum Generation at 211 MW from the previous 234MW level and related required derogations from SDC3.4.1.1 (a), SDC3.6.1 and SDC1.4.8.10 will continue to provide additional flexibility to SONI in the operation of the NI system and will be of benefit to consumers by reducing the dispatch production cost to bring C30 on load to resolve the North-West Generation Operational Constraint as detailed in the monthly update published by SONI.”

⁶ [Coolkeeragh ESB Derogation | Utility Regulator \(uregni.gov.uk\)](https://www.uregni.gov.uk/coolkeeragh-esb-derogation).

Impact and risk of non-compliance on sustainable development: “The continuation of the derogation of Minimum Generation at 211 MW from the previous 234MW level and related required derogations from SDC3.4.1.1 (a), SDC3.6.1 and SDC1.4.8.10 will, in addition to reducing dispatch production cost, act to support to sustainable development by reducing the potential requirement to curtail output from wind and solar generation when C30 is constrained on.”

- 2.5. CESB comments that the grant of the Derogation Request will have no security of supply and competition related impacts.
- 2.6. CESB contends that operation of the C30 Unit at a (new) normal minimum generation of 211MW, subject to the requested derogations, represents the limit of the unit’s capability. CESB states that it will continue to engage with the units Original Equipment Manufacturer (**OEM**) in respect of the potential improvement of the C30 Unit’s performance regarding minimum generation compliance, but that given the stage of the development cycle of the technology deployed in the unit, it is unlikely that viable technology options will be developed.
- 2.7. CESB also states that the requested temporary derogations are intended to provide a period of time to build operational experience at the reduced load level of 211MW, for both station and system operation. However, CESB says, on the basis of the available information and the competing compliance requirements, a further derogation will likely be required at the end of the five-year period, dependent on further reviews on achieving compliance.
- 2.8. The Authority requested more detail about CESB’s engagement with the OEM and SONI, and if there had been attempts to tune the performance of the C30 Unit to minimise non compliance with the Min Gen requirements. CESB sent more information through to the Authority on 27 October 2023, and stated that:
- 2.9. *“During the 2022 Contractual Service Agreement (CSA) negotiation with GE, the ability to reduce the min generation level was discussed. It was identified that additional expenditure to the [Redacted]⁷ upgrade could reduce the minimum generation level to Grid Code compliant levels.”*
- 2.10. CESB also commented that *“indicative values [redacted] presented to ESB GT. However, considering the age of the plant, the significant cost to lower the minimum generation levels and uncertainty in the capacity market, it was deemed infeasible to progress with the OEM offer at that time.”*
- 2.11. *Hence, the derogation request for a further extension that would allow for further operational experience to be gained at the load level of 211 MW and for the opportunity to carry out further reviews to assess for compliance can be achieved if different running obligations or other arrangements changed.”*

⁷ [Redacted].

- 2.12. In January 2024 CESB supplied more information about the technical specifications of the C30 Unit (the Generator Nameplate details), which allowed the UR to conduct further analysis of the Minimum Load the Unit can achieve, set against the Grid Code requirements.
- 2.13. In 2023 SONI had engaged with a third party vendor to conduct further technical studies investigating the Modification to Clause CC. S1.1.3.8 of the SONI Grid Code, with the output of these studies potentially also driving further modifications to other related clauses in the Grid Code.
- 2.14. The report considered what is the appropriate minimum standard in the Grid Code, while considering the requirement to also understand the environmental impact. This is given the goal of the energy transition to decarbonise the power system into the future, while balancing this with the highest priority for the TSO, security of supply.
- 2.15. It is important to understand the impact and the need for flexibility to deliver the Energy transition in a cost effective manner.
- 2.16. A proposed modification to the MCR clause was submitted to the Authority on 13 October 2023, which will be the subject of a separate decision by the Authority. It is proposed to remove the reference to 80MW as an option for Min Gen level in CC. S1.1.3.8, and also in CC. S1.2.3.3 (which places a parallel requirement on generation connected to the distribution system).

3. Engagement with SONI and NIE Networks Limited

- 3.1. The Authority consulted with SONI and NIE Networks Limited (NIE) – as owner of the Transmission System - following receipt of the derogation request. Their views are summarised below: -

NIE Networks - Response

- 3.2. NIE Networks responded to the Derogation Request on 13 September 2022. In its response NIE made the following comments: -

“As the derogation requested relates to the minimum generation level at Coolkeeragh Power Station, then this is primarily an issue for SONI to comment on.

As this derogation relates to the performance of Coolkeeragh Power Station in respect of the Transmission System, then NIE Networks have no comment to make on the derogation requested by Coolkeeragh Power Station in their document dated 15th July 2022.”

4. SONI - Response

- 4.1. SONI responded to the derogation request on 14 October 2022. In its response SONI made the following comments: -

“SONI is cognisant of the limitations in capability of the plant to run below 211MW as a CCGT, and the limitations this places on system frequency control when operating at that level.

SONI also recognises that the ability to run C30 at 211MW will continue to provide additional flexibility to SONI in the operation of the NI system and will be of benefit to consumers by reducing the dispatch production cost to bring C30 on load.

In addition, extending the currently lapsed derogation will act to support sustainable development by reducing the potential requirement to curtail output from wind and solar generation when C30 is constrained on.

SONI supports a five-year extension to the previous derogation (NET/E/TH225), for a minimum generation level of 211MW in CCGT mode, which would commence from the receipt of application to the TSO, on 15 August 2022.

On the basis of the work and efforts carried out to minimise the degree of non-compliance with the Grid Code Minimum Generation requirements while at the same time ensuring the stable operation of C30 during system frequency deviations and continuing to operate in line with environmental licensing and planning consent requirements, SONI considers a five-year extension request to be reasonable.

Any further extensions beyond the timescales detailed above will be dependent on a review of the proposed five-year derogation period, which will consider relevant system requirements, any updates to compliance levels, and flexibility considerations.”

5. Sections under Common Governance

- 5.1 As the Derogation Request involves sections of the Grid Code under Common Governance and the other grid code⁸ the Authority sought comment from the Commission for Regulation of Utilities (**CRU**). CRU had no comment to make on the derogation.

6. The Authority’s Decision

- 6.1. We have considered the information provided by CESB, SONI, NIE Networks and CRU and all other relevant factors relating to the Derogation Request. We have also had

⁸ The code prepared by the Other TSO (EirGrid) pursuant to section 33 of the Electricity Regulation Act 1999 of the Republic of Ireland and approved by the relevant regulatory authority (the CRU).

regard to our published 2017 Guidance on derogations⁹ and our principal objective and general statutory duties, as set out in Article 12 of the Energy (NI) Order 2003.

- 6.2. We are mindful of the assertion by CESB that the proposed derogated level of minimum generation of 211 MW is at the limit of the capability of the equipment within the C30 Unit.
- 6.3. Having considered these matters, the Authority has decided to grant the Derogation Request by the making of an appropriate direction in exercise of its power under Condition 4(2) of the CESB Licence, being satisfied that the Derogation Request is, for the reasons offered by CESB, and noting the support from SONI, justified. The direction: -
- (a) is attached as an Annex to this letter
 - (b) applies from 00.01 GMT on 20 March 2024¹⁰
 - (c) relieves CESB of its obligation to comply with Clauses CC. S1.1.3.8, SDC3.4.1.1(a), SDC3.6.1, and SDC1.4.8.10 of the Grid Code in relation to the C30 Unit at Coolkeeragh Power Station to the extent specified in the direction; and
 - (d) ceases to apply on and from 23.59 GMT on 15 August 2027, or such earlier date that the Authority shall determine by further direction.
- 6.4. The direction applies to CESB's licence obligations in respect of the operation of the C30 Unit. It does not apply to the C30 Unit itself. It is non transferrable. This means that should another entity operate C30 in future, that entity would, should it wish to operate the C30 Unit, otherwise than in full compliance with all the provisions of the Grid Code (to include those provided for in the direction at the Annex to this letter) have to apply for a direction granting appropriate relief.
- 6.5. The direction shall cease to apply should the C30 Unit be de-commissioned or replaced.
- 6.6. The direction shall be entered and maintained in the Electricity Register.



Donald Henry

Networks and Energy Futures Director

Duly authorised for and on behalf of the Northern Ireland Authority for Utility Regulation

⁹[Guidance document on network code derogations | Utility Regulator \(uregni.gov.uk\)](#). We note that the Derogation Request did not address the matters in section 2.1 (2) (impact on health and safety and government policy) of the published 2017 Guidance. However, we are on this occasion prepared to progress the matter. This benevolence might not be adopted in future. It does not set a precedent. We do not see how the derogation/s sought can have a material adverse impact on these matters.

¹⁰ Our guidance publication on derogations makes it clear that a derogation by direction shall not apply to a period before the date of the direction.

CC: SONI Limited

ANNEX

**DIRECTION UNDER CONDITION 4(2) OF THE ELECTRICITY GENERATION LICENCE
HELD BY COOLKEERAGH ESB LIMITED**

TO: Coolkeeragh ESB Limited

Whereas:

- (A) Coolkeeragh ESB Limited (**CESB**) holds an electricity generation licence granted (or treated as granted) under Article 10(1)(a) of the Electricity (Northern Ireland) Order 1992 (the **Order**) on 9 August 2002 (the **Licence**).
- (B) CESB (the **Licensee**) is authorised by the Licence to generate electricity for the purpose of giving a supply to any premises or enabling a supply to be so given.
- (C) The Grid Code is required to be prepared by SONI Limited (**SONI**) under Condition 16 of the electricity transmission licence granted to SONI under Article 10(1)(b) of the Order. The Grid Code is required to be approved by the Northern Ireland Authority for Utility Regulation (the **Authority**) and the currently applicable Grid Code is dated 9 February 2023.¹¹
- (D) The Licensee is required, under and in accordance with Condition 4(1) of the Licence, to comply with the provisions of the Grid Code insofar as applicable to it.
- (E) Condition 4(2) of the Licence provides that the Authority may, following consultation with the Transmission System Operator (namely SONI) and the Transmission Owner (namely Northern Ireland Electricity Networks Limited), issue direction(s) relieving the Licensee of its obligations under Condition 4(1) of the Licence in respect of such parts of the Grid Code and to such extent as may be specified in those directions.
- (F) By direction dated 19 June 2020 (the **June 2020 Direction**) the Licensee was granted a derogation¹² against specified provision of the Grid Code.
- (G) On 15 July 2022, the Licensee submitted a request that the Authority relieve the Licensee of its (licence) obligation to comply with; Clauses CC.S1.1.3.8; SDC3.4.1.1(a), SDC3.6.1; and SDC1.4.8.10 of the Grid Code (**the Derogation Request**) to the extent specified in the Derogation Request and relating to its operation of C30 Unit. The Derogation Request was resubmitted on 8 November 2022 with a minor correction.
- (H) The derogations sought in the Derogation Request are the same as those granted in the June 2020 Direction.

¹¹ [Feb23_SONI-Grid-Code.pdf](#)

¹² The derogation superseded 2006 direction. It is here: [Coolkeeragh ESB Derogation | Utility Regulator \(uregni.gov.uk\)](#)

- (l) The Authority has consulted on the Derogation Request with SONI (the TSO), NIE Networks Limited (as the Transmission Owner) and CRU as the Regulatory Authority of the other grid code.

The Authority now gives the following direction:

1. Pursuant to Condition 4(2) of the Licence, for the period commencing on 00.01 GMT on 20 March 2024 and ending 23.59 GMT on 15 August 2027 (the **relevant period**) the Licensee is relieved (to the following extent) of its obligation under Condition 4(1) of its Licence to comply with the following provisions of the Grid Code as they apply to its C30 Unit:-
 - (i) Clause CC.S1.1.3.8 to the extent that the Licensee shall instead comply with that clause of the Grid Code as if the requirements of that clause instead provided for (and permitted) the Licensee to operate its C30 Unit so that it must be capable of remaining Synchronised to the NI System at an Output which is no greater than (i.e. at a *minimum* generation level of) 80 MW for two 12 hour periods per year, and for the rest of the year 211 MW in CCGT mode and 154 MW in OCGT mode. Operation of the CCGT in OCGT mode shall only be required under emergency conditions or periods of low load on the NI System, in each case as determined by NIE Networks and/or SONI; **AND**
 - (ii) Clause SDC3.4.1.1(a); Clause SDC3.6.1; and Clause SDC1.4.8.10, in each case to the extent of when, and only when, the C30 Unit is operating at or below a load point of 234MW.
2. The Authority may revoke, vary or replace this direction by a further Direction before the end of the relevant period.
3. This direction shall further cease to apply on and from any date that the C30 Unit is de-commissioned or replaced.
4. The reasons for this direction are set out in a letter accompanying and published with it.



Signed:

Name: Donald Henry

Date: 19 March 2024

Duly authorised by and on behalf of the Northern Ireland Authority for Utility Regulation