
Connection and Use of System Code (CUSC) CMP424: Amendments to Scaling Factors used for Year Round TNUoS Charges (CMP424)

Decision:	The Authority ¹ directs that this modification be made ²
Target audience:	National Grid Electricity System Owner (NGESO), Parties to the CUSC, the CUSC Panel and other interested parties
Date of publication:	6 September 2024
Implementation date:	1 April 2025

Background

The ongoing costs of the transmission network are recovered by Transmission Network Use of System (TNUoS) charges, which are recovered from licensable generators, and demand users. Wider TNUoS charges reflect the incremental costs of different types of generation being used to meet peak demand (referred to in the charging methodology as 'Average Cold Spell (ACS)' demand) by modelling the flows across the network through two different scenarios: Peak Security and Year Round background. Both of these scenarios contain the same underlying demand, but generation is 'scaled'³ so that in a Peak Security scenario, it is only conventional plant which serves ACS demand, and in a Year Round scenario, ACS demand is met by a mix of different generation technologies.

In each scenario, the capacity of each generation technology is scaled, either on a 'fixed' or a 'variable' basis, so that i) total generation capacity meets the ACS value; and ii) the correct mix of technologies is reflected in each scenario (for instance, there is 0MW wind in the Peak Security scenario as it is assumed that wind does not contribute to meeting

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

² This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

³ For both Peak Security and Year Round generation backgrounds, the nodal generation is scaled according to the relevant Scaling Factors as set out in the Security Standard, such that total system generation equals total system demand.

peak demand in this scenario). The 'baseline' scaling factors from paragraph 14.15.7 of the CUSC are shown below:

Generation Plant Type	Peak Security Background	Year Round Background
Intermittent	Fixed (0%)	Fixed (70%)
Nuclear & CCS	Variable	Fixed (85%)
Interconnectors	Fixed (0%)	Fixed (100%)
Hydro	Variable	Variable
Pumped Storage	Variable	Fixed (50%)
Peaking	Variable	Fixed (0%)
Other (Conventional)	Variable	Variable

As more wind generation (with a fixed scaling factor of 70%) connects to the network the variable scaling factors will fall over time, because the variable factors are used to 'top up' total capacity to meet ACS demand. However, increased wind capacity may meet or even exceed ACS demand values. Using the Transmission Entry Capacity (TEC) register and applying best view, National Grid Electricity System Operator (NGESO) expect that this will eventually result in negative variable scaling factors within the next few years.

The modification proposal

CMP424: *Amendments to scaling factors used for Year Round TNUoS charges* ('the Proposal') was raised by NGESO ('the Proposer') on 12 October 2023. The Proposal seeks to introduce a mechanism which sets a lower limit on the variable generation scaling factors used for the purpose of the Year Round background tariff calculation within the Transport model. The mechanism proposed is outlined below:

- Introduce a 10% minimum value for variable scaled factors in the Year Round Background.
- 'Fixed' scaling factors will be adjusted for Year Round background calculations if required to ensure the variable factor remains above 10%.
- When the variable scaling factor is increased to meet the 10% floor, all 'fixed' scaling factors are adjusted by a uniform amount so that the total of all scaled generation capacity is equal to Average Cold Spell (ACS) Peak Demand.
- No changes to be made for Peak Security.

This is to address a purported defect in the current methodology which, without any change, NGENSO expect to result in negative scaling factors within the next few years. The aim of the Transport model is to reflect the costs of adding 1MW to the network and if scaling factors were to be negative, this would mean that adding 1MW to the network would reflect a reduction in costs, rather than an increase.

The Proposer considers that the Proposal would be positive in terms of Applicable CUSC charging objectives a), b) and e) and neutral against the remaining objectives. In their view, the Proposal will: help facilitate a level playing field for competition in future years through more cost reflective charging; ensure that the impact of additional variable generation is included in the Transport model; and ensure functionality as intended in future years.

CUSC Panel⁴ recommendation

At the CUSC Panel meeting on 28 June 2024, the CUSC Panel unanimously considered that CMP424 would better facilitate the CUSC charging objectives, and the Panel therefore recommended its approval.

Our decision

We have considered the issues raised by the modification proposal and the final Modification Report (FMR) dated 9 July 2024. We have considered and taken into account the responses to the industry consultation(s) on the modification proposal which are attached to the FMR⁵. We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the applicable charging objectives of the CUSC;⁶ and
- directing that the modification be made is consistent with our principal objective and statutory duties.⁷

⁴ The CUSC Panel is established and constituted from time to time pursuant to and in accordance with section 8 of the CUSC.

⁵ CUSC modification proposals, modification reports and representations can be viewed on NGENSO's website at: <https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc/modifications>

⁶ As set out in Standard Condition C5(5) of NGENSO's Transmission Licence, see: [Licences and licence conditions | Ofgem](#)

⁷ The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

Reasons for our decision

We consider this modification proposal will better facilitate CUSC objectives a), b) c) and e) and has a neutral impact on the other applicable objectives.

(a) that compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;

A few Panel members considered the Proposal to be positive against this objective and the rest considered the Proposal to have a neutral impact on this objective. One Panel member stated that if this change was not implemented, it would not be possible to run the TNUoS tariff model and therefore they assess the Proposal as positive against this objective. The Proposer considers the Proposal to better facilitate this objective as they consider that more cost reflective charging will help facilitate a level playing field for competition in future years.

Our view

We consider that mathematically it would be possible for the model used to create TNUoS charges to be run with any scaling value, but that in practice a negative scaling factor would result in a distorted locational TNUoS charge for some users.

TNUoS charges are designed to reflect the relative long-run marginal cost of generation or demand at a particular location. Under the current regime, additional load at a point on the network might result in a positive charge to a generator for instance. However, in the future the application of a negative scaling factor, might distort that positive charge to the extent it becomes negative, or affect how it compares (in a relative sense) to TNUoS charges at other locations. In this case, we believe cost-reflectivity would be undermined and the baseline could therefore be a detriment to competition as compared to the solution presented in CMP424, which retains the cost-reflective nature of charging such that each network user faces charges reflecting their effect on the network. Therefore, we consider the Proposal to better facilitate this objective compared to the baseline.

(b) that compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard licence condition C26 requirements of a connect and manage connection;

The Panel members unanimously considered the Proposal to better facilitate this objective. They considered the Proposal to benefit cost reflectivity in the charging methodology by preventing negative scaling factors and ensuring the Transport model functions as intended. One Panel member also highlighted that the Proposal benefits this objective as by implementing a floor of 10% to variable scaling factors, it ensures that conventional carbon generators (which have a variable scaling factor) are modelled as having a net positive output.

Another member noted that as renewable generation increases, it is becoming more likely that the current methodology would generate negative scaling factors. They acknowledged that this would raise challenges with the wider functionality of the model and would impact the creation of cost reflective tariffs. Therefore, they consider the Proposal to better facilitate this objective by ensuring that the tariff model can accommodate the projected growth in flexible generation.

Our view

We agree with Panel members that the Proposal better facilitates this objective. The aim of the Transport model is to reflect the costs of adding 1MW of generation to the network in order to calculate wider TNUoS tariffs. If this Proposal was not implemented, it is likely that in future years (due to the increase in renewables deployment) that scaling factors would become negative for variable generation. This would mean for every 1MW in generation added to the Transport model this will result in a reduction in costs, rather than an increase, and we do not consider this to be cost reflective. Therefore, we consider that placing a floor on variable scaling factors better facilitates this objective and ensures this issue does not materialise.

(c) that, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;

The Panel members unanimously considered the Proposal to have a neutral impact against this objective.

Our view

Overall, we consider the Proposal will lead to the charging methodology properly taking account of developments in the transmission licensees' transmission businesses, namely that it ensures the Transport model works as intended and that flexible generation is reflected in the model's background scenarios when calculating tariffs. The baseline arrangements may potentially lead to a scenario where 1MW added to transport model will reflect a reduction in costs, which is not reflective of how the current network operates. Therefore, we consider the Proposal to better facilitate this objective.

(e) promoting efficiency in the implementation and administration of the use of system charging methodology.

The majority of Panel members considered the Proposal to better facilitate this objective. They highlighted that the solution proposed is a pragmatic, minimum change and ensures that generation assumptions in the Year Round background remain no less reflective of actual dispatch than they are today. One Panel member noted that the Proposal would mitigate the short-term risk of negative scaling factors.

Our view

We consider the Proposal to promote efficiency in the implementation and administration of the charging methodology as it will ensure that the Transport model works as intended. We agree with the views of the Panel members that the solution is simple and efficient in that it fixes the potential defect, without materially impacting tariffs or the implementation of the methodology.

Legal text

Our review of the legal text has identified a minor error in the existing drafting of paragraph 14.15.7 of the CUSC. The current drafting has replaced 'total demand level' with 'Generation Plant Type', which is not defined in Section 11 of the CUSC. We recognise that it is in reference to the table below the paragraph which outlines the scaling factors of different generation types. We consider that the legal text would benefit

from some clarification with respect to this term (eg 'Generation Plant Type as referenced below').

Whilst this error has not affected our ability to reach a view as to the merits of the Proposal, we expect NGESO/Code Administrator to rectify this legal text issue before implementation of CMP424 on 1 April 2025.

Decision notice

In accordance with Standard Condition C10 of the Transmission Licence, the Authority, hereby directs that modification proposal CMP424: *Amendments to Scaling Factors used for Year Round TNUoS Charges* be made.

Harriet Harmon

Head of Electricity Transmission Charging

Signed on behalf of the Authority and authorised for that purpose