

Modification proposal:	Connection and Use of System Code (CUSC) CMP357: To improve the accuracy of the TNUoS Locational Onshore Security Factor for the RIIO2 Period (CMP357)		
Decision:	The Authority ¹ directs that WACM2 of 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:	25 January 2021	Implementation date:	1 April 2021

Background

Generators and demand users pay for the ongoing costs of the transmission network via Transmission Network Use of System (TNUoS) charges. These charges are a combination of cost-reflective locational charges, designed to incentivise the efficient development of the system, and residual charges.

The Locational Onshore Security Factor is an input to the TNUoS charging methodology. TNUoS locational tariffs are calculated on the basis of an unconstrained network with all circuits in service, and then 'stretched' by the Security Factor to reflect the extra capacity in the transmission network, required for network security under a 'worst contingencies' circuits fault scenario. The Security Factor is based on a regression that calculates the ratio of secured marginal costs to unsecured marginal costs (based on average least squares fit method for all the nodes on the wider network).

The Security Factor is reviewed by NGESO at the start of each Price Control period and set for its duration. In previous charging years (2013/14 – 2020/21) the Security Factor

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.

has been 1.8. NGESO presented its refreshed Security Factor calculation at the Transmission Charging Methodologies Forum (TCMF) in September 2020, and its intention to continue to round the input to one decimal place. In response to industry feedback that they should retain the decimal places which are produced as part of the security factor update methodology, rather than round to one decimal place, NGESO opened a three week consultation on whether to use one, two or eight decimal places for the Security Factor.³ The consultation closed on 4 December 2020 and on 21 December 2020 NGESO published a letter advising that it intended to use one decimal place for the 2021/22 charging year, and raise a CUSC modification proposal to implement two decimal places for the remainder of the RIIO-2 period (2022/23 – 2025/26), subject to the Authority’s approval.⁴

The modification proposal

CMP357 was raised by SSE on 22 December 2020 and seeks to improve the accuracy of Security Factor by having it is applied using eight decimal places. The Proposer’s view is that this is the correct way to calculate the Security Factor on the basis that it ensures that more accurate charging than rounding to one decimal place will occur as a result.

On 30 December 2020, we decided that CMP357 should be progressed on an urgent basis because it is an imminent issue that could not be introduced for the 2021-22 charging year, unless progressed under an urgent timeline.⁵

The Proposer expects this modification to have a positive impact on Applicable CUSC Charging Objectives (a), (b) and (d) and to be neutral against the remaining Applicable CUSC Charging Objectives (ACCOs). In their view, the proposal would better facilitate competition in generation as it increases the accuracy of TNUoS charges, reducing the potential for unduly increased or reduced tariffs. They also believe that the proposal promotes greater accuracy of the Security Factor and this will improve the cost-reflectivity of the value of the Security Factor. The Proposer further considers this change to better facilitate compliance with the Electricity Regulation by ensuring more accurate transmission tariffs are in place in GB for the forthcoming price control period.

Following a review of the Workgroup Consultation responses, the Workgroup brought forward two potential solutions for CMP357. The first Workgroup Alternative CUSC

³ <https://www.nationalgrideso.com/document/180741/download>

⁴ <https://www.nationalgrideso.com/document/183471/download>

⁵ https://www.ofgem.gov.uk/system/files/docs/2020/12/cmp357_security_factor_urgency_request_letter.pdf

Modification (WACM) proposes to apply the Security Factor using one decimal place and the second WACM proposes to express the Security Factor to two decimal places.

CUSC Panel⁶ recommendation

At the CUSC Panel meeting on 21 January 2021, the CUSC Panel voted on the CMP357 Original and each of the WACMs against the ACCOs. The Panel recommended by majority that the Original and WACM2 better facilitated ACCOs (a) and (b) than the Baseline, with some members also recommending they better facilitated (d). Four Panel members also supported WACM1 on the basis that it better facilitated ACCO (e) than the Baseline.

Our decision

We have considered the issues raised by the modification proposal and the final Modification Report (FMR) dated 21 January 2021. We have considered and taken into account the responses to the industry consultations on the modification proposal which are attached to the FMR.⁷ We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the applicable objectives of the CUSC;⁸ and
- directing that the modification be made is consistent with our principal objective and statutory duties.⁹

Reasons for our decision

We consider that WACM2 will better facilitate ACCOs (a), (b) and (d) and has a neutral impact on the other applicable objectives.

⁶ The CUSC Panel is established and constituted from time to time pursuant to and in accordance with section 8 of the CUSC.

⁷ CUSC modification proposals, modification reports and representations can be viewed on NGE's website at: <https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc/modifications>

⁸ As set out in Standard Condition C10(1) of the Electricity Transmission Licence, see: <https://epr.ofgem.gov.uk/Content/Documents/Electricity%20transmission%20full%20set%20of%20consolidated%20standard%20licence%20conditions%20-%20Current%20Version.pdf>

⁹ 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.

(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;

The majority of Panel members agreed that the Original and WACM2 would better facilitate the achievement of ACCO (a) than the Baseline and WACM1 on the basis that increasing the number of decimal places improves the cost reflectivity of the TNUoS tariff calculation. This ensures generators are charged more accurately and will not be under or over charged. The Panel unanimously agreed that WACM1 is either neutral or does not better facilitate this objective as it only clarifies the existing treatment of expressing the Security Factor to one decimal place.

One Panel member supported implementation of WACM2 on the basis that defining the Security Factor to eight decimal places is no more accurate than significantly fewer decimal places.

Our position

NGESO and several respondents to the workgroup/Code Administrator consultations consider that the changes would have a negative impact on competition, because users will have already made decisions for next year before this late change to a fundamental part of the TNUoS methodology. While we agree that unpredictable changes in TNUoS charges can undermine competition, where users could not reasonably have foreseen the changes, we do not agree that this is necessarily the case with regards to the Security Factor.

In its November consultation on the Security Factor, NGESO proposed applying one, two or eight decimal places and did not indicate a preference for any option. NGESO also provided indicative wider generation and demand tariffs under each Security Factor option, enabling users to estimate the potential impact of a change in decimal places on their tariffs. NGESO did not publish its decision to retain one decimal place, with the intention of raising a CUSC modification to increase this to two decimal places from 2022-23, until 21 December 2020. Against this background, we do not think users had certainty about how many decimal places would be applied to the Security Factor but this was inherent in the fact that CUSC did not make specific precision on this point. We note that CMP357 was raised the next day, signalling to users that the question of the Security

Factor to apply from 1 April 2021 was not finalised. We made our decision on urgency on 30 December 2020 which accelerated the process.

We note one Panel member did not agree that increasing the number of decimal places better supports competition on the basis that there are issues with the underlying methodology for the modelling that estimates security factors, which mean cost reflectivity will not be improved by increasing the number of decimal points, as the accuracy of the underlying modelling had not been proven to 8 decimal places. For this modification, we recognise that a decision on whether the proposals are positive against ACCO (a) is linked to a decision on whether increasing the number of decimal places increases the cost reflectivity of TNUoS charges under ACCO (b). This is because charges will increase for some users and decrease for others and so the extent that this facilitates effective competition depends on the extent that users are paying more cost reflective charges.

Although we recognise that charging instability arising from a late change to the Security Factor would be negative against ACCO (a), we consider that, in practice, this will be minimal for the reasons set out above. We also agree with the majority views expressed by the Panel that both the Original and WACM2 are positive against ACCO (a). However, for the reasons described in detail against ACCO (b), on balance we believe WACM2 is consistent with the introduction of greater cost reflectivity without introducing the (potentially) spurious accuracy¹⁰ associated with eight decimal places.

(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 majority of Panel members agreed that the Original and WACM2 better facilitated ACCO (b) as they were of the view that expressing the Security Factor to more than one decimal place produces the most cost reflective price signals for both consumers and generators. All Panel members also agreed that WACM1 either did not facilitate or was

¹⁰ Spurious accuracy, also known as spurious precision, occurs when numbers are presented in a way that suggests they are more precise than is justified by the underlying calculations

neutral against this objective, as expressing the Security Factor to one decimal place does not provide the same level of cost reflectivity as the Original and WACM2 proposals.

One Panel member did not agree that the Original or WACM2 were positive against this objective because they thought that it reduced cost reflectivity. This is because both the Original and WACM2 make changes to the current approach to regression analysis, which they believe is not cost reflective because it should be updated to reflect an intercept of zero.

With regards to the choice between the Original and WACM2, one panel member considered that WACM2 was the best solution because it increases cost reflectivity without implying greater accuracy than is justified by the methodology, which is an average of a gradient of forecast years' network design. Another panel member argued that, if NGENSO has calculated the Security Factor as having eight decimal places, then rounding this to less decimal places will reduce cost reflectivity.

Our position

We have considered the points raised by some Panel members and respondents to the workgroup/Code Administrator consultations that because there may be improvements that could be made to the methodology, it is appropriate to retain one decimal place. As a general rule, we do not think that potential future improvements to the accuracy or cost reflectivity of the charging methodologies means that the current methodology cannot be considered to be cost reflective, as they are, by design, modelled, not actual network costs. We also think that further analysis would be required, in order to confirm that the different approach to regression modelled by NGENSO as part of the workgroup assessment would be more cost reflective. Given this, we agree that the Original and WACM2 better facilitates ACCO (b) than the Baseline and WACM1 by better reflecting the Security Factor calculated by NGENSO.

The FMR has not given us the evidence needed to suggest that there is a necessary linear relationship between increasing the number of decimal points and cost reflectivity, without introducing market distortions. Without this, it is difficult for us to conclude that the Security Factor given to eight decimal places, as a result of NGENSO's regression modelling, is in fact cost reflective to that degree of precision. Therefore, we consider that moving to eight decimal places, as proposed under the Original could lead to spurious accuracy, as it implies a degree of mathematical precision that may not be intended or possible under a regression analysis approach to setting the Security Factor.

We further note that, based on the analysis undertaken by NGENSO, the vast majority of the movement in charges will be captured by moving from one to two decimal places. As a result of these considerations, when assessed against our statutory duties, and particularly section 3A(5A) of the Electricity Act, we think approving two decimal places is a more appropriately targeted decision than eight decimal places.

Given this, we consider that WACM2 appropriately balances improving cost reflectivity of charges by capturing the majority of the movement in charges, while avoiding implying a greater level of cost reflectivity than can be achieved under the regression analysis, by moving to eight decimal places.

(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and

The majority of Panel members agreed that the Original and proposed WACMs were neutral against this objective. Only two Panel members were of the view that the Original and WACM2 better facilitated this objective as it increases cost reflectivity in line with Direction 2009/72 (EU). It is a legal requirement of Directive 2009/72(EU) Recital that transmission tariffs in GB “are non-discriminatory and cost-reflective” and by ensuring more accurate transmission tariffs are in place for the next price control period will mean that compliance with Electricity Regulation is achieved.

Our position

We agree with the minority of the Panel that the Original and WACM2 better facilitates ACCO (d) as increasing the number of decimal places of the Security Factor will improve the cost reflectivity of tariffs and reduces discrimination between different types of generators. Our more detailed assessment of cost reflectivity is stated in relation to ACCO (b).

Decision notice

In accordance with Standard Condition C10 of the Transmission Licence, the Authority, hereby directs that WACM2 of modification proposal *CMP357: To improve the accuracy of the TNUoS Locational Onshore Security Factor for the RII02 Period* be made.

Andrew Self

**Deputy Director, Electricity Network Charging & Access
Energy Systems Management and Security**

Signed on behalf of the Authority and authorised for that purpose