Public

Second Final Modification Report

CMP316: TNUoS Arrangements for Co-located Generation Sites

Overview: Generation sites which comprise multiple technology types within one Power Station are termed "co-located." This modification will develop a cost-reflective approach to allow the Connection and Use of System Code (CUSC) charging methodology to accommodate the growing number of such sites.

Modification process & timetable

1. **Proposal Form**
   26 April 2019
2. **Workgroup Consultation**
   07 February 2022 – 28 February 2022
3. **Workgroup Report**
   18 August 2022
4. **Third Code Administrator Consultation**
   30 June 2025 – 28 July 2025
5. **Third Draft Final Modification Report**
   07 August 2025
6. **Second Final Modification Report**
   08 August 2025
7. **Implementation**
   01 April 2026

Have 10 minutes? Read our Executive summary
Have 90 minutes? Read the full Final Modification Report
Have 180 minutes? Read the full Final Modification Report and Annexes.

Status summary: This report has been submitted to the Authority for them to decide whether this change should happen.

Panel recommendation: The Panel has recommended unanimously that the WACM1 is implemented.

The Panel recommended unanimously that the Original and WACM1 better facilitated the Applicable CUSC Objectives.

This modification is expected to have a:
Medium impact: Co-located Generators; Low impact: National Energy System Operator

Governance route	Standard governance modification assessed by a Workgroup and determined by the Authority.	
Who can I talk to about the change?	**Proposer:** Martin Cahill, NESO martin.cahill1@neso.energy	**Code Administrator Chair:** Lizzie Timmins elizabeth.timmins@neso.energy

Public

Contents

Executive summary

Generation[1] sites which comprise multiple technology types within one Power Station are termed "co-located." This modification will develop a cost-reflective approach to allow the CUSC charging methodology to accommodate the growing number of such sites.

What is the issue?

Generation sites which comprise multiple technology types within one Power Station are termed "co-located" (which, in the context of the proposal, is also referred to as 'Multi-Technology'). The Transmission Network Use of System (TNUoS) charging methodology does not adequately accommodate co-located generation sites. This is especially true for sites which have a mixture of technologies that fall into the two different charging categories (e.g., Conventional vs. Intermittent). The charging methodology within Section 14 needs to include a charging approach by which such sites can be recognised and charged consistently with the cost-reflective principles underpinning the broader TNUoS (Generator) Charging Methodology.

What is the solution and when will it come into effect?

Proposer's solution: The Proposer is seeking adding a new formula to the TNUoS charging methodology to calculate wider locational charges for 'co-located' or Multi-Technology Power Station. A proportion of the Power Stations Transmission Entry Capacity (TEC) will be assigned to each technology type, each with a separate Annual Load Factor (ALF). The solution utilises the current CUSC formula (CUSC 14.15.101) which is based on output per fuel/technology type across a Financial Year divided by the proportion of TEC (to be referred to, in the Original solution as 'MTEC') for each technology type. The TNUoS charge(s) for each technology type will be calculated for each technology type individually and then summed to provide the total TNUoS charge for the whole (Multi-Technology) Power Station.

Implementation date: 01 April 2026

[1] Which includes both generation sites with more than one technology (including storage) or storage sites with more than one technology (including generation).

Summary of alternative solution and implementation date:

One alternative solution has been raised: WACM1 has the same implementation date as the Original proposal but is different to the Original proposal in that:

- The tariff components for each technology type are calculated separately, where:
    - The Peak liability is pro-rated using Peak Installed TEC. A new term MTECP (Multi Technology Power Station TEC Peak) is introduced as the capacity to be used for calculating the peak charge.
    - The Not Shared Year Round is pro-rated using the ALF to give a scaled Not Shared Year Round liability. MTECN (Multi Technology Power Station TEC for Year Round Not Shared) and EALF (Effective ALF) are used for calculating the YRNS charge.
- ALF is calculated using the scaled TEC for the relevant technology type (rather than site TEC).
- Where enough historical consumption data does not exist, Generic ALFs are used to estimate consumption for each technology type and recalculate each ALF using scaled TEC

Workgroup conclusions: The Workgroup concluded unanimously that WACM1 better facilitated the Applicable Objectives than the Baseline, and by majority that the Original better facilitated the Applicable Objectives than the Baseline.

Code Administrator Consultation: The Code Administrator Consultation received 2 non-confidential responses [and 0 confidential responses].

Panel recommendation:

The Panel has recommended unanimously that the WACM1 is implemented.

The Panel recommended unanimously that the Original and WACM1 better facilitated the Applicable CUSC Objectives.

What is the impact if this change is made?

According to the Proposer, a pro rata approach will provide greater cost-reflectivity to the charging arrangements for co-located sites – the Proposer believes this approach could be sufficiently generic to map onto other future changes in the network charging arena such that any broader developments

resultant of (inter alia) Ofgem's Significant Code Review (SCR) into Access & Forward-Looking Charges would not be precluded by, or preclude, CMP316.

It is proposed that revisions are made to CUSC Section 14 to introduce a new formula which calculates the appropriate TNUoS charge per technology type for the Power Station.

Interactions

None.

What is the issue?

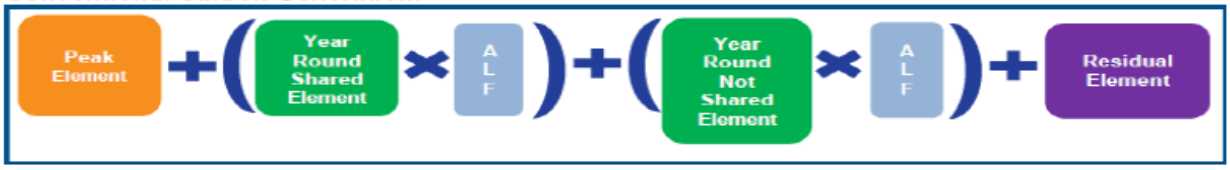
Generation sites which comprise multiple technology types within one Power Station are termed "co-located." The TNUoS methodology does not adequately accommodate co-located generation sites. This is especially true for sites which have a mixture of technologies that fall into different charging categories (e.g., Conventional vs. Intermittent). Section 14 needs a methodology by which such sites can be recognised and charged consistently with the cost-reflective principles underpinning the broader TNUoS (Generator) Charging Methodology.

To avoid overlap with the scope of on-going Access and Forward-Looking Charges SCR, CMP316 does not aim to introduce a new access product nor modify an existing access product for shared access sites (e.g. two Generator Users sharing one point of connection).

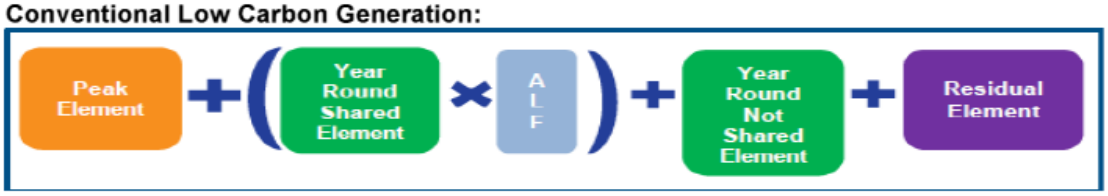
Why change?

Currently, the TNUoS methodology assesses Power Station technology type and the 'controllability' of said technology type. Depending on the outcome, one of the following three formulas forms the basis for the wider TNUoS tariff calculation for that site (per 14.18.7 of CUSC)

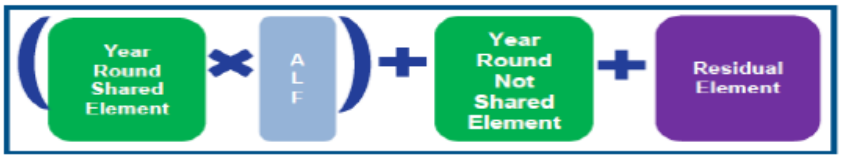
Conventional Carbon Generation:



Conventional Low Carbon Generation:



Intermittent Generation



For co-located sites, especially those which combine technologies in different charging categories i.e., intermittent generation or conventional low carbon, the current methodology cannot produce cost-reflective wider tariffs.

A pro rata approach will provide greater cost-reflectivity to the charging arrangements for co-located sites. The Proposer believes this approach could be sufficiently generic to map onto other future changes in the network charging arena, such that any broader developments resultant of (inter alia) Ofgem's SCR into Access & Forward-Looking Charges would not be precluded by, or preclude, CMP316.

What is the solution?

Original

As the solution depends on pro rating TEC, the below should be used as the approach within the existing TNUoS charging methodology by which TEC is apportioned. The Proposed solution is to:

- For a Multi Technology Power Station, include a formula into CUSC Section 14.18
- For a Multi Technology Power Station the Power Station's TEC is allocated across the different Balancing Mechanism Units (BMUs) at the station, specifically:

$$MTEC_{BMU} = \frac{CAP_{BMU}}{\sum_{BMU=1}^{n} CAP_{BMU}} \times TEC$$

Where;

$MTEC_{BMU}$ = Multi technology Power Station's TEC for a specific BM Unit

CAP_{BMU}= Installed Capacity for a specific BM Unit (or the average of maximum BM Unit metered values where there is a negative tariff, as per the negative methodology).

TEC = Transmission Entry Capacity (TEC) of Power Station as defined in the Bilateral Connection Agreement (or the average of maximum Power Station metered values where there is a negative tariff, as per the negative methodology).

n = number of BM Units at the multi technology Power Station

When any of the BM Units at a Power Station are initially calculated to have a negative tariff, the final charge will be calculated using different capacity inputs to MTEC. CAP_{BMU} in the above equation will use maximum metered volumes for each BM Unit instead of Installed Capacity. These will be the average of the capped metered volumes during the three Settlement Periods which have the highest metered volumes for the BM Unit, separated by at least 10 clear Business Days, and between November and February of the relevant Financial Year inclusive. TEC in the equation will also be replaced by maximum metered volumes for the Power Station.

An ALF is calculated for each BMU as follows:

$$ALF_{BMU} = \frac{\sum_{p=1}^{17520} GMWh_{pBMU}}{\sum_{p=1}^{17520} TEC_p \times 0.5}$$

Where:

ALF_{BMU} is the ALF for a **BM Unit** at a multi technology **Power Station**
$GMWh_{pBMU}$ is the maximum of FPN or actual metered output in a **Settlement Period** related to the **BM Unit**

WACM1

For the WACM1 solution, charges for each BMU are calculated separately by component, with a different calculation for each. The ALF is treated differently, proportioning on MTEC rather than site TEC.

- MTEC (Multi Technology Power Station TEC) is defined in the same way, and used for calculation of the Year Round Shared charge for each BMU, and the Adjustment charge
- MTECP (Multi Technology Power Station TEC for Peak Security tariff) is introduced for calculating the Peak charge.
- EALF (Effective ALF) and MTECN (Multi Technology Power Station TEC for Year Round Not Shared tariff) are introduced for calculating the Year Round Not Shared Charge

Annual Load Factor

The Annual Load Factor for WACM1 differs in that the denominator uses MTEC instead of TEC. The calculation is as follows:

$$ALF_{BMU} = \frac{\sum_{p=1}^{17520} GMWh_{pBMU}}{\sum_{p=1}^{17520} MTEC_{pBMU} \times 0.5}$$

MTECP (Multi Technology Power Station TEC for Peak Security tariff)

MTECP is the sum of Maximum Capacity (MC) for each BMU as long the associated technology attracts a peak tariff component. (Where the associated technology does not attract a peak tariff component then the formula will consider that MC will be zero)

MTECP is capped at the MTEC or BMU Installed Capacity, i.e. the lowest of the value calculated below or BMU Installed Capacity will apply. It is calculated as follows:

$$MTECP_{BMU} = min\left[\left(\frac{CAP_{BMU}}{\sum_{BMU=1}^{n} CAP_{BMU}} \times TEC\right), (CAP_{BMU})\right]$$

Where:

$MTECP_{BMU}$ = multi technology Power Station's TEC (for Peak Security tariff calculation) for BM Unit

CAP_{BMU} = Installed Capacity for BM Unit to which peak security tariff applies (or the maximum BM Unit metered values where there is a negative tariff, as per the negative methodology)

n = the number of BM Units that attract peak security tariff

TEC = TEC of Power Station as defined in the Bilateral Connection Agreement or Bilateral Embedded Connection Agreement (or the maximum Power Station metered values where there is a negative tariff element, as per the negative methodology)

$MTECP_{BMU}$ will equal zero for a BM Unit that does not attract a peak security tariff component

MTECN (Multi Technology Power Station Effective Capacity Scaled TEC for Year Round Not Shared tariff) and EALF (Effective Annual Load Factor)

MTECN is calculated as the Installed Capacity of a BM Unit multiplied by the EALF, and then scaled so that the total of MTECN for all BM Units cannot exceed TEC

EALF (Effective ALF) is equal to 1 for all intermittent and Conventional Low Carbon technologies, and equal to ALF for Conventional Carbon technologies.

MTECN is calculated as follows:

$$MTECN_{BMU} = CAP_{BMU} \times EALF_{BMU} \times YRNSSCALE$$

$$YRNSSCALE = min\left[\left(\frac{TEC}{\sum_{BMU}^{n} CAP_{BMU} \times EALF_{BMU}}\right), 1\right]$$

Where:

$MTECN_{BMU}$=multi technology Power Station's TEC (for Year Round Not Shared tariff calculation) for BM Unit

CAP_{BMU} = Installed Capacity for BM Unit to which Peak Security tariff applies (or the maximum BM Unit metered values where there is a negative tariff, as per the negative methodology below

TEC = TEC of Power Station as defined in the Bilateral Connection Agreement or Bilateral Embedded Connection Agreement (or the average of maximum Power Station metered values where there is a negative tariff, as per the negative methodology below)

EALF=The effective ALF of a BM Unit and is equal to 1 for Intermittent and Conventional Low Carbon technologies

YRNSSCALE is the Scaling factor uses to ensure that total MTECN does not exceed TEC

Generic Annual Load Factors

Where enough historical consumption data does not exist, Generic ALFs are used to estimate consumption for each technology type, using:

$$GMWh_{pBMU} = Generic\ ALF_{BMU} \times Installed\ Capacity_{BMU} \times 8760$$

Power Station Charge

The charge for a multi technology **Power Station** will be calculated as the summation of all individual **BM Unit** liabilities as calculated using MTEC, MTECP, and MTECN, whereby:

$$Peak\ Charge_{BMU} = MTECP_{BMU} \times Peak\ Tariff$$
$$YRS\ Charge_{BMU} = MTEC_{BMU} \times ALF_{BMU} \times YRS\ Tariff$$

$$YRNS\ Charge_{BMU} = MTECN_{BMU} \times YRNS\ Tariff$$
$$Adjustment\ Chagre_{BMU} = MTEC_{BMU} \times Adjustment\ Tariff$$

$$Power\ Station\ Charge = \sum_{BMU}^{n} Peak\ Charge_{BMU} + \sum_{BMU}^{n} YRS\ Charge_{BMU} + \sum_{BMU}^{n} YRNS\ Charge_{BMU} + \sum_{BMU}^{n} Adjustment\ Charge_{BMU}$$

Approval and implementation of the modification will change the way that co-located generation sites are charged, and this approach will be reflected in an updated part within Section 14 of the CUSC. As such, compliance with this change will be mandatory (rather than voluntary). The solution for this modification will necessitate that each technology type for co-located generation sites will require its own BMU/metering. If each technology type for co-located generation sites does not have its own BMU/metering, then the existing TNUoS charging methodology approach will prevail; i.e. the site charge will continue to be based upon the predominant technology type as per the current charging arrangements in Section 14 of the CUSC. (Note that in practice the Workgroup do not currently see any conflict in determining the predominant technology type by using either TEC/installed capacity and they have not needed to define this further. This ambiguity could occur in future projects and this solution is looking to address and provide certainty for future projects.

What is the impact of this change?

Proposer's assessment against CUSC Charging Objectives		
Relevant Objective	**Identified impact of Original solution**	**Identified impact of WACM1**

(d) 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;	**Positive** Facilitates effective competition by having a charging methodology which appropriately reflects charges for the technology types at a site. This is important as the number of multi technology sites is expected to grow rapidly.	**Positive** This creates a final liability that is more reflective of what different generation types are assumed to do if not co-located, and therefore removes any false incentive or disincentive to co-locate generation, thus improving competition between generator set-ups
(e) 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 C11 requirements of a connect and manage connection);	**Positive** This proposal introduces a more cost reflective way of charging multi technology sites, by having a separate charge component for each technology type.	**Positive** The result will use capacities that are more reflective of the fuel-types and their associated costs across the different elements of the tariff
(f) 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'	**Positive** This change reflects the growing number of power stations with multiple technologies.	**Positive** This change reflects the growing number of power stations with multiple technologies.

transmission businesses and the ISOP business*;		
(g) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency **; and	**Neutral**	**Neutral**
(h) Promoting efficiency in the implementation and administration of the system charging methodology.	**Neutral**	**Neutral**

** See Electricity System Operator Licence*

***The Electricity Regulation referred to in objective (g) is Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) as it has effect immediately before IP completion day as read with the modifications set out in the SI 2020/1006.*

Workgroup considerations

This modification was originally raised in April 2019. Two Workgroup meetings were held in 2019 before the Workgroup was put on hold due to Panel Prioritisation of modifications.

The Workgroup then convened 11 times during 2021 and 2022.

To contextualise the number of co-located projects planned to come on to the National Electricity Transmission System (NETS) in the next few years, and therefore ascertain the size and impact of the defect, the Workgroup looked at the latest TEC register information provided by the Proposer. Upon reviewing the information provided within the Proposer and within the TEC register, the Workgroup noted that the number of co-located projects is increasing.

Small Distributed Generators

The Workgroup noted that both Transmission and Distribution connected Generators with >100MW TEC are impacted by this modification as current payers of TNUoS. It was discussed that small distributed generation sites with <100MW of TEC would not be impacted through this modification as they do not currently pay

TNUoS. However, the Workgroup agreed that they should consider how the solution would work if they were included, as they may pay TNUoS in the future. An assumption was made that if TNUoS charges are in the future extended to embedded Generators with <100MW TEC that those TNUoS charges would be based on TEC (even though some currently don't have TEC). It was raised that if those sites were to pay TNUoS in future, a measure of installed capacity for each technology type, in addition to the total site TEC, would need to be provided for all sites <100MW to facilitate the proposed solution.

The proposed pro-rata calculation

The proposed solution looks to apportion TEC between different technology types on co-located sites using a new "Multi Technology Power Station" pro-rata formula.

CAP_{BMU}

The term 'CAP_{BMU}' in the pro-rata formula requires Installed Capacity to be broken down by technology type to work out the proportions. The total Installed Capacity for each co-located site is proposed to be used for this, which is already provided to NESO in each connection application form.

The NESO representative explained that some existing co-located sites have provided Connection Entry Capacity (CEC) and this is stored within the Data Registration Code (DRC) in the Grid Code. This data item was discussed to provide capacity for each technology type.

One Workgroup member shared concerns that individual plant CEC is not necessarily information which should be declared by NESO. It was stated that the TEC register is currently published but CEC is not publicly known, and that there may be concerns in sharing site-specific CECs.

It was initially agreed that Maximum Capacity as defined within the Grid Code will be used to provide capacity for each fuel/technology type and captured within the Connection Agreement Appendix C for all co-located sites. This was later updated to use a new Section 11 definition "Installed Capacity" as discussed in Workgroup Discussions following Authority decision.

The Proposer explained that a process would need to be established to ensure that all co-located sites have capacity for every technology type and a transition process established to capture for existing sites too.

Analysis: The impact of implementation of CMP316

The Workgroup noted that implementation of CMP316 will change the TNUoS charging methodology for generation sites which comprise of multiple technology types within one Power Station, meaning that at some sites TNUoS charges will be higher and others lower. The Proposer's view was that this would charge sites consistently with the cost-reflective principles underpinning the broader Generator TNUoS Charging Methodology. The overall revenue collected from Generators via TNUoS will not change with this proposal as any resulting under/over recovery will be shared across all Users. The impact of CMP316 will vary dependent upon technology types, location, and technology type ALFs.

Eight sets of examples were discussed by the Workgroup. The scenarios were created using the spreadsheet in **Annex 07**, and further narrative on the examples can be found in the first Final Modification Report (**Annex 12**). Please note that these examples were based on historic TNUoS charging data (2021/22 charging year projections).

Discussions on installed capacity and co-utilisation of TEC

The Workgroup held detailed discussions on installed capacity and co-utilisation of TEC. Details of this can be found in the first Final Modification Report (**Annex 12**).

Charging for Negative Zones

The Workgroup considered how multi technology sites in negative tariff zones should be charged, resulting in an addition to both the Original and WACM1 methodologies. In both instances, installed capacity and TEC are replaced by the average output of the unit (or Generator for TEC) over the three settlement periods of highest output from November to the end of February each year.

Workgroup Consultation Summary

The Workgroup held their Workgroup Consultation between 7 February 2022 to 28 February 2022 and received eight responses. The full responses and a

summary of the responses can be found in **Annex 03**. Key points raised are as follows:

- Two out of eight respondents did not agree with the implementation approach, with one noting that it is not clear that the solution addresses the issue, and the other arguing that the modification introduces a new defect.
- Respondents noted the need for clarity on implementation in how it affects existing and future co-located sites, and noted the challenging implementation date.
- Respondents noted the need for clarity in the solution, particularly around billing, invoicing and obligations associated with MTEC, with some respondents stating that MTEC should be published on the TEC register for transparency[2].
- Most respondents believed the declarations route would lead to an increased admin burden and potential for less accurate data than sourcing from contracts; one respondent supported the declaration (and redeclaration) route to capture varying situations at a site which may be different to what was set out in the Connection Agreement originally.

Post Workgroup Consultation discussions

The Workgroup discussed the Workgroup Consultation responses, with the Proposer noting they had changed the implementation date of the modification to 01 April 2024. They also stated that the appropriate metering must be in place for the solution to apply. Some Workgroup members suggested this could mean future sites could choose not to have separate metering if this was a cheaper option, however there was an expectation that it would be more commercially beneficial for co-located sites to have separate metering in terms of trading

[2] Please note that the original response referred to MFSSTEC (Multi Fuel Sites TEC), which is referred to throughout this document as MTEC (Multi Technology Power Station TEC), as acronyms were simplified by the Proposer to aid stakeholder understanding.

separately. There was also a suggestion from a Workgroup member that the Balancing and Settlement Code (BSC) may restrict two technology types from being combined under one meter.

The Workgroup noted the challenging timing of the implementation and also noted that WACM1 (raised following the Workgroup Consultation) addressed some of the concerns raised in the Workgroup Consultation.

Workgroup Alternative CUSC Modification (WACM1)

Following the Workgroup Consultation, WACM1 was raised.

The full WACM form can be found in **Annex 05**, which outlines the differences between the Original Proposal and WACM1. An updated solution for WACM1 can be found in the solution section above. Examples of numerical tariff calculations for the WACM can be found in **Annex 08**.

When discussing WACM1, some Workgroup members believed this Proposal to be more cost-reflective than the Original solution.

Legal Text

The Legal Text for this change can be found in **Annex 04**, in the following paragraphs:

- 14.15.7;
- 14.15.8;
- 14.15.102;
- 14.15.103;
- 14.18.7.

Annex 16 also shows the legal text changes made since the Authority send-back, with any changes highlighted and comments provided for context.

First Workgroup Vote

The Workgroup met on 27 July 2022 to carry out their first Workgroup Vote[3]. The full Workgroup vote can be found in **Annex 06** of this report.

First Code Administrator Consultation Summary

The First Code Administrator Consultation was issued on 04 October 2022, closed on 01 November 2022 and received 2 responses. The full responses can be found in **Annex 09**.

First Panel recommendation vote

The First Draft Final Modification Report was presented to November 2022 CUSC Panel for Panel recommendation vote. Three Panel Members noted that changes to the legal text for CMP316 WACM1 were required as the legal text did not reflect the intent of CMP316 WACM1.

Therefore Panel, under CUSC 8.23.4(iv), asked for the Workgroup to be re-formed to update the legal text for CMP316 WACM1 and at the same time update the worked examples, (**Annex 08**) as to how CMP316 WACM1 works, to help industry understanding.

Workgroup Discussions following Panel Send Back

The Workgroup met 3 times between November 2023 and February 2024. Further worked examples were provided to clarify the differences in methodology between WACM1 and the Original solution, as there had also been some updates to the methodology for sites in negative zones to align mirror treatment of single technology power stations in negative zones (affecting both WACM1 and Original) can be found in **Annex 08**.

[3] The First Workgroup Vote was carried out by assessing the modification against the Applicable CUSC Objectives as at 27 July 2022. These changed on 01 October 2024, so the Second Workgroup Vote was carried out using the current Applicable CUSC Objectives.

The updates for CMP316 WACM1 were discussed at length with Workgroup members who were given the opportunity to question, and input to changes made to the WACM1 legal text and worked examples.

Second Code Administrator Consultation Summary

The Second Code Administrator Consultation was run from 25 March 2024 to 24 April 2024, and specifically focused on the updates to CMP316 WACM1, received 4 non-confidential responses and 0 confidential responses. The full responses can be found in **Annex 11.**

One respondent believed that the intent of CMP316 WACM1 was not reflected in the legal text and noted that the additional complexity introduced would outweigh the benefits to CUSC parties.

Second Panel recommendation vote

The Panel met on 31 May 2024 to carry out their second recommendation vote. This can be found within the First Final Modification Report (**Annex 12**).

Authority Decision to send back CMP316

On 13 December 2024, the Authority sent back the CMP316 Final Modification Report for further work and directed Panel to revise and resubmit the CMP316 Final Modification Report (**Annex 12**).

Approach agreed at CUSC Panel to address this

On 10 March 2025, the CUSC Panel agreed the Terms of Reference for the Workgroup to consider ahead of a third Code Administrator Consultation being issued to industry.

Workgroup Discussions following Authority send back

The Workgroup met 5 times between March 2025 and June 2025 to address the Terms of Reference. The table below outlines how the deficiencies identified in the Authority send back letter have been addressed in this document:

a) Ensure the Original solution legal text addresses the modification defect, the issues identified in the send-back letter, and is legal and operable.

The Workgroup reviewed the legal text to ensure it reflected the intent of the Original solution and addressed the issues highlighted in the send-back letter. The legal text was also reviewed by NESO legal to ensure its operability, and reference to maximum capacity was removed and replaced by the new definition of Installed Capacity (introduced into CUSC Section 11 on 10 June 2025 by CMP434). Please see legal text changes since send back and **Annex 16** for full details of the amendments to the legal text following the second send back.

b) Ensure WACM1 legal text addresses the modification defect, the issues identified in the send-back letter, and is legal and operable.

The Workgroup reviewed the legal text to ensure it reflected the intent of the WACM solution and addressed the issues highlighted in the send-back letter. As part of this, provision was added into the legal text for scaling of ALFs, which was missed from the previous version of legal text for WACM1. The legal text was also reviewed by NESO legal to ensure its operability, and reference to maximum capacity was removed and replaced by the new definition of Installed Capacity (introduced into CUSC Section 11 on 10 June 2025 by CMP434). Please see legal text changes since send back and **Annex 16** for full details of the amendments to the legal text following the second send back.

c) Investigate whether any simplifications can be made to the legal text so it can be more easily understood by stakeholders.

The Proposer created a simplified methodology for WACM1 which would give the same tariff outputs but using different calculations. This could have the benefit of making the process easier to follow both for stakeholders to understand how charges would be calculated and to further simplify the legal text. The Workgroup discussed the merits of this and developed some initial examples. However, after further discussion with the workgroup and Authority, it was decided that taking this approach would go beyond the scope of the sendback, which should focus on simplifying and correcting the legal text within the existing Original and WACM1 methodologies. They instead simplified the legal text by using different terminology for the acronyms and outlining some calculations in steps rather than having them presented as one complex calculation. Please see legal text changes since send back and **Annex 16** for full details of the amendments to the legal text following the second send back.

One Workgroup member queried whether Limited Duration Transmission Entry Capacity (LDTEC) and Short Term Transmission Entry Capacity (STTEC) needed to be covered within the CMP316 solution. The Proposer noted that the charges for STTEC and LDTEC are agnostic of technology type, and calculated from the effective tariff for a generation zone only. This is calculated from the Initial Transport Tariffs for each generation zone and would not change if CMP316 was approved. It was noted that the Annual Load Factor calculation incorporates LDTEC and STTEC, something which exists in the current CUSC baseline.

The Proposer revisited the previous legal text to determine where this could be corrected and simplified. They noted that CMP424 (implemented on 01 April 2025) introduced legal text into CUSC Section 14 in the same paragraph as CMP316 but advised that there was no impact on CMP316. The Proposer advised the Workgroup that their intention was to simplify some of the complex acronyms used within the legal text and split one of the complex calculations into two steps, to provide clarity to stakeholders on how the calculation worked. They noted that some terms within the legal text would need to be bolded to show that they are defined terms within Section 11, and advised they would consider whether an additional defined term needed to be added for Maximum Capacity. Following further discussion, the Workgroup decided to use the term Installed Capacity instead, which is already defined within CUSC Section 11. Workgroup members also suggested minor changes to 14.18.7 for clarity.

The Workgroup also discussed the need to modify the ALF within WACM1 to ensure the solution and legal text match, noting that using a Generic ALF without adjustments could lead to tariff inaccuracies. The Proposer suggested scaling the Generic ALF for better accuracy. One member warned that this might lead to an overestimation of the ALF. Another member proposed introducing a term like MALF (multi-technology ALF) to distinguish it from the standard ALF, though upon reviewing the legal text it was agreed that the term used "ALF_{BMU}" already distinguished this from a standard ALF. There were also debates about whether the scaling factor should apply to the ALF or capacity.

One Workgroup member noted that in the ALF calculations for the Original and WACM1, there is potential for the total metered output used across all BM Units to

exceed the total Power Station metered output where one BM Unit imports from another. The Workgroup discussed whether this was appropriate, or if generation used at another unit should be excluded from the BM Unit ALF calculation. It was decided not to account for this with a change to the methodology, on the basis of:

- Simplifying the calculation where possible.
- That this existing calculation was more in line with existing TNUoS principles – e.g. if 1MW of generation is added to a Power Station, it is still an increase to net generation in that region irrespective of whether it is being provided to a unit on site or the network and should be considered as a marginal cost.

The Proposer suggested an amendment to the adjustment charge, however the Workgroup agreed this was not required.

The Proposer advised that they had investigated an interaction with CMP444, noting that they expected no impact as the Cap and Floor acts on tariffs and so does not affect the calculations.

Legal text changes since send back:

Clause	What does this clause do?		Changes since Authority send back	
	Original	**WACM1**	**Original**	**WACM1**
14.15.7	Introduce multi technology power station definition and technology types	Introduce multi technology power station definition and technology types	Added in missing word "more than *one* technology" as identified in sendback letter Terms bolded and changed	Terms bolded and changed to upper case where relevant Updated references MTPSTEC, MTPSTECPk and MTPSECS to new acronyms

			to upper case where relevant Updated reference to MTPSTEC to new shortened acronym MTEC	MTEC, MTECP, MTECN
14.15.8	Refers to existing process for muti technology power stations in baseline, text to be deleted,	Refers to existing process for muti technology power stations in baseline, text to be deleted,	None – same sentence deleted	None – same sentence deleted
14.15.102	Describe ALF calculation for multi technology generators	Describe ALF calculation for multi technology generators	Equation formatting corrected to include equals sign Bolding and upper case terms for consistency Updated terminology in equation to be clearer, including referencing BM Unit instead of	Bolding and upper case terms for consistency Updated terminology in equation to be clearer, including referencing BM Unit instead of technology type, and updating descriptions

			technology type, and updating descriptions	Included guidance as to how generic ALFs should be used Provided clarity on BM Unit vs Power Station output and why they may not always match
14.15.103	Describe how output for ALF calculation is derived	Describe how output for ALF calculation is derived	Included new acronym MTEC, bolded Power Station	Included new acronym MTEC, bolded Power Station
14.18.7	Introduce MTEC (previously MTPSETC) equation to pro rata TEC across BMUs, and how this related to overall Power Station charge. Describe methodology for generators in a negative zone.	Calculations included for MTEC, MTECP and MTECN (previously MTPSTEC, MTPSTECPk and MTPSECS) and how these are used to calculate a component charge for each BM Unit. Describe negative methodology	Updated terminology in equation to be clearer, including referencing BM Unit instead of technology type, and updating descriptions Updated reference to MTPSTEC to new shortened acronym MTEC	Updated references MTPSTEC, MTPSTECPk and MTPSECS to new acronyms MTEC, MTECP, MTECN Year Round Not Shared calculation (previously using MTPSECS) has been split into two steps to

14.8.17 (continued)		when one or more of the tariff components is negative.	Negative methodology updated to refer to 14.18.14 Formatting corrections e.g. 's' on separate line removed	make it easier to read. Updated terminology in equation to be clearer, including referencing BM Unit instead of technology type, and updating descriptions Brackets moved in MTECP (Previously MTPSTECPk) equation as per sendback letter. Negative methodology updated to refer to 14.18.14 New equations added to make clearer how final charge is calculated.

Annex 16 shows the legal text changes made since the Authority send-back, with any changes highlighted and comments provided for context.

Second Workgroup Vote

Following changes to the legal text after the second send-back, the Workgroup met on 11 June 2025 to carry out their second Workgroup Vote. The full Workgroup vote can be found in **Annex 15** of this report. The table below provides a summary of the Workgroup members view on the best option to implement this change.

The Applicable CUSC (charging) Objectives are:

d) 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;
e) 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 C11 requirements of a connect and manage connection);
f) 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 and the ISOP business*;
g) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and
h) To promote efficiency in the implementation and administration of the system charging methodology

*Objective (g) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER) The Electricity Regulation referred to in objective (g) is Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market

for electricity (recast) as it has effect immediately before IP completion day as read with the modifications set out in the SI 2020/1006.

The Workgroup concluded by majority that the Original better facilitated the Applicable Objectives than the Baseline, and unanimously that WACM1 better facilitated the Applicable Objectives than the Baseline.

Option	Number of voters that voted this option as better than the Baseline
Original	4
WACM1	5

Third Code Administrator Consultation Summary

The Code Administrator Consultation was issued on the 30 June 2025, closed on 28 July 2025 and received 2 non-confidential responses and 0 confidential responses. A summary of the responses can be found in the table below, and the full responses can be found in **Annex 17**.

Third Code Administrator Consultation summary	
Question	
Do you believe that the CMP316 Original Proposal or WACM1 better facilitates the CUSC Applicable Objectives?	Both respondents indicated that the Original and WACM1 better facilitate the objectives than the Baseline, with both indicating that the Original and WACM1 better facilitate objectives (d) and (e), and one respondent indicating that the Original and WACM1 better facilitate objectives (f) and (h).
Do you believe that the amendments have met the	Both respondents believed that the deficiencies of the Send Back letter have

deficiencies of the Send Back letter?	been met, noting that errors have been corrected and that the legal text has been simplified where possible with the use of shorter acronyms.
Do you support the proposed implementation approach?	Both respondents supported the proposed implementation approach, with one respondent noting that it would ensure use of system charges become more cost reflective.
Do you have any other comments?	One respondent indicated a preference for WACM1 over the Original on the basis that it is more cost reflective. The other respondent noted that although the proposed change may add additional complexity in comparison to the Baseline, that this may be justified by the benefit of more cost-reflective charges.
Legal text issues raised in the consultation	
No legal text issues were raised during the consultation, however an error has been identified in the WACM1 legal text in 14.18.7, where the word 'Not' needs removing from a clause explaining a calculation. The Proposer has confirmed they believe this is a typographical change, as the calculation itself is correct. The proposed change can be found in **Annex 18**.	

Panel Recommendation vote

The Panel met on 07 August 2025 to carry out their recommendation vote.

They assessed whether a change should be made to the CUSC by assessing the proposed change and any alternatives against the Applicable Objectives.

Panel comments on Legal text

Ahead of the vote taking place, the Panel will consider the legal text amendments proposed as part of the Code Administrator Consultation and agree next steps. The suggested changes can be found in **Annex 18.**

Vote 1: Does the Original or WACM1 facilitate the Applicable Objectives better than the Baseline?

Panel Member: **Andrew Enzor, Users' Panel Member**

	Better facilitates AO (d)?	Better facilitates AO (e)?	Better facilitates AO (f)?	Better facilitates AO (g)?	Better facilitates AO (h)?	Overall (Y/N)
Original	Yes	Yes	Yes	Neutral	No	Yes
WACM1	Yes	Yes	Yes	Neutral	No	Yes

Voting Statement
On the pretence that TNUoS charges for individual technologies broadly meet the objectives, both the Original and WACM1 better facilitate objective (d) and objective (e) by combining the two more appropriately than the baseline. However, TNUoS charges for storage in particular are currently far from cost-reflective. Storage and renewables is one of the most likely combinations of technology to co-locate, so in order for the full benefits of CMP316 to be realised, it is important that changes are implemented to improve cost reflectivity for storage, potentially through CMP405 in the short term and broader TNUoS reform thereafter. Both the Original and WACM1 better facilitate objective (f) while there is a minor negative impact on objective (h) which is more than offset by the positive impacts on other objectives. Hence both are better than the Baseline. WACM1 is more beneficial against objective (d), objective (e) and objective (f) while only slightly more detrimental on objective (h), so is the best option.

Panel Member: **Dan Arrowsmith, NESO Panel Member**

	Better facilitates AO (d)?	Better facilitates AO (e)?	Better facilitates AO (f)?	Better facilitates AO (g)?	Better facilitates AO (h)?	Overall (Y/N)
Original	Yes	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Yes	Neutral	Yes	Yes

Voting Statement
NESO's preference is for WACM1 over the Original, on the basis that we believe this is more cost reflective and was the preference of the workgroup. NESO believe that both WACM1 and the Original better facilitate the applicable objectives by providing a methodology which takes into account the individual technology types at a Power Station, as opposed to the current methodology which only assigns a 'predominant technology'. Worked example documents provided alongside the mod show a full comparison of the methodologies and example figures for a Power Station.

Panel Member: **Garth Graham, Users' Panel Member**

	Better facilitates AO (d)?	Better facilitates AO (e)?	Better facilitates AO (f)?	Better facilitates AO (g)?	Better facilitates AO (h)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Neutral	Neutral	Yes
WACM1	Yes	Yes	Neutral	Neutral	Neutral	Yes

Voting Statement
A Workgroup members' voting statement (from the initial Workgroup vote) succinctly reflects my reasoning as to why the two proposals are better, in terms of Applicable Objectives (d) and (e), namely that: "*Both the Original and the Alternative [WACM1] are more cost reflective than the Baseline. There is a balance to be struck between the (relative) simplicity of the Original and the more complex (but marginally more cost reflective and "accurate") Alternative WACM1. Since both solutions increase the complexity of the TNUoS calculations, then it would appear prudent to implement the more cost reflective Alternative, WACM1*". Accordingly, WACM1 is 'best' (when compared to the Original and the Baseline). For the avoidance of doubt, both proposals are neutral in terms of (f), (g) and (h) whilst, overall, the Original and WACM1 are better (than the Baseline).

Panel Member: **Joe Colebrook, Users' Panel Member**

	Better facilitates AO (d)?	Better facilitates AO (e)?	Better facilitates AO (f)?	Better facilitates AO (g)?	Better facilitates AO (h)?	Overall (Y/N)
Original	Yes	Yes	Yes	Neutral	No	Yes
WACM1	Yes	Yes	Yes	Neutral	No	Yes

Voting Statement

I believe the Original and WACM1 are positive against objective d. The solution will improve the incentive for energy storage and other complementary technologies to share Transmission Entry Capacity with generation, which should reduce unit costs and increase the competitiveness in the generation of electricity.

I think the Original and WACM1 are positive against objective e. The ability for the charging methodology to have a different tariff for co-located assets will improve the cost reflectivity of co-located sites within the existing network charging model.

The Original and WACM1 are positive against objective f. The number of co-located assets connecting to the transmission network is expected to increase significantly over the next few years, and this solution will positively take into account the impact on impact on transmission businesses.

The Original and WACM1 are compliant with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency and therefore are neutral against objective g.

The Original provides an improvement to the baseline, but by producing a simple solution, the solution is not able to fully capture the cost reflectivity issue defined by the defect. The WACM1 solution, although more complex, provides improved cost reflectivity compared to the original and removes an incentive for generators to build and operate co-located technology for the sole purpose of reducing TNUOS charges. Both reduce the efficiency of the system charging methodology and are therefore negative against objective h, even though this is an acceptable trade-off.

I believe WACM1 is the best solution for fixing the defect identified in the CMP316 proposal.

Panel Member: **Kyran Hanks, Users' Panel Member**

	Better facilitates AO (d)?	Better facilitates AO (e)?	Better facilitates AO (f)?	Better facilitates AO (g)?	Better facilitates AO (h)?	Overall (Y/N)
Original	Yes	Yes	Yes	Neutral	Neutral	Yes
WACM1	Yes	Yes	Yes	Neutral	Neutral	Yes

Voting Statement

d) Positive

By making the charges at co-located sites proportionate to the technologies on that site, competition will be enhanced. As the workgroup showed, the number of multi technology sites is set to increase. Basing charges on the dominant technology is no longer appropriate.

e) Positive

Charging based on the dominant technology resulted in charges that were too high for one technology and too low for another technology. Making the charges proportionate clearly results in more cost reflective charges for each technology on a multiple technology site.

f) Positive

The number of multi technology sites is set to increase. The TNUoS charging regime should develop in line with this change. Thus, CMP316 properly reflects developments in the licensees' businesses.

g) Neutral

Seems no relationship with EBR

h) Neutral

On the one hand, charging will become more complex, as the formulae in the FMR demonstrates. On the other hand, it is NESO's job to implement charging changes that reflect the changing world. This is such a change. So, on balance, I consider the proposal is neutral with respect to efficiency in the implementation and administration of the system charging methodology.

Overall, I note that the workgroup slight favoured WACM1. Both would be sensible improvements on the charging methodology. I have no reason to disagree with the workgroup vote, hence I conclude that WACM1 is a better proposal than the Original.

Panel Member: **Paul Jones, Users' Panel Member**

	Better facilitates AO (d)?	Better facilitates AO (e)?	Better facilitates AO (f)?	Better facilitates AO (g)?	Better facilitates AO (h)?	Overall (Y/N)
Original	Yes	No	Neutral	Neutral	Neutral	Yes
WACM1	Yes	Yes	Neutral	Neutral	Neutral	Yes

Voting Statement
The original solution is marginally better than the baseline but introduces distortions of its own by being oversimplistic and failing to adequately address situations where TEC is shared by multiple technologies at a power station. WACM1 addresses these properly and is by far the better and more complete solution of the two. On the face of things, it seems complex but could be explained with the use of guidance note which would be appropriate for something of this importance.

Vote 2 – Which option best meets the Applicable Objectives?

Panel Member	Best Option	Which objectives does this option better facilitate? (If baseline not applicable).
Andrew Enzor	WACM1	(d), (e) and (f)
Dan Arrowsmith	WACM1	(d), (e), (f) and (h)
Garth Graham	WACM1	(d) and (e)
Joe Colebrook	WACM1	(d), (e) and (f)
Kyran Hanks	WACM1	(d), (e) and (f)
Paul Jones	WACM1	(d), (e)

Panel Conclusion

The Panel has recommended unanimously that the WACM1 is implemented.

The Panel recommended unanimously that the Original and WACM1 better facilitated the Applicable CUSC Objectives.

When will this change take place?

Implementation date:

01 April 2026

Date decision required by:

30 September 2025

Implementation approach:

The NESO Billing system and the NESO Tariff Setting and Charging processes would need to be updated. Appendix C of the Connection Agreement will require updating.

NESO TNUoS Guidance note to be updated for industry participants to include co-located examples.

Interactions

☐Grid Code	☐BSC	☐STC	☐SQSS
☐European Network Codes	☐ EBR Article 18 T&Cs[4]	☐Other modifications	☐Other

[4] If the modification has an impact on Article 18 T&Cs, it will need to follow the process set out in Article 18 of the Electricity Balancing Regulation (EBR – EU Regulation 2017/2195) – the main aspect of this is that the modification will need to be consulted on for 1 month in the Code Administrator Consultation phase. N.B. This will also satisfy the requirements of the NCER process.

CMP316 should have no consumer TNUoS impact as the value recovered via TNUoS would be unchanged. The way the value is allocated across the generation community would change.

The proposed solution assumes that the mapping of fuel/technology types to the wider generation charging categories has already taken place (and will therefore cope with any future changes implemented if the mappings change over time).

There is no direct impact to the Security and Quality of Supply Standards (SQSS) identified in this modification, however it is noted that the TNUoS Call for Evidence is looking to review links with the TNUoS methodology and SQSS.

This modification only affects co-located Generators. Non co-located Generators will not be required to do anything differently as a result of this modification.

Through the work on this Modification, it is necessary to also change three Exhibits to the CUSC. The three Exhibits to be changed are: CUSC Exhibit B Connection Application; Exhibit D BEGA Application; Exhibit I Modification Application – this is covered under CMP397.

Acronyms, key terms and reference material

Acronym / key term	Meaning
ALF	Annual Load Factor
BMU	Balancing Mechanism Unit
BSC	Balancing and Settlement Code
CAPi	Maximum Capacity for Technology i
CEC	Connection Entry Capacity

Chargeable Capacity	Chargeable Capacity is the basis of the generation charge, where Local Annual Liability = Chargeable Capacity x Local Tariff
CHP	Combined heat and power
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
DRC	Data Registration Code
ALF	Annual Load Factor
EALF	Effective ALF
EBR	Electricity Balancing Regulation
GC	Generation Capacity
GWh	Gigawatt hours
LDTEC	Limited Duration Transmission Entry Capacity
MC	Maximum Capacity
MTPSECS	Multi Technology Power Station Effective Capacity Scaled
MTPSALFs	Multi Technology Power Station ALF (Annual Load Factor)
MTEC	Multi Technology Power Station TEC for each technology
MTECP	Multi Technology Power Station TEC (Peak)
Mod App	Modification Application (to a Connection Contract)
MWh	Megawatt hours
NESO	National Energy System Operator
NETS	National Electricity Transmission System

PV	Photo Voltaic
RC	Registered Capacity
SCR	Significant Code Review
SQSS	Security and Quality of Supply Standards
STC	System Operator Transmission Owner Code
STTEC	Short Term Transmission Entry Capacity
T&Cs	Terms and Conditions
TDR	Transmission Demand Residual
TEC	Transmission Entry Capacity
TNUoS	Transmission Network Use of System
YRNS	Year Round Not Shared
YRS	Year Round Shared

Annexes

Annex	Information
Annex 01	CMP316 Proposal form
Annex 02	CMP316 Terms of Reference
Annex 03	CMP316 Workgroup Consultation responses and summary
Annex 04	CMP316 Legal Text
Annex 05	CMP316 WACM1 Form
Annex 06	CMP316 First Workgroup Vote

Annex 07	CMP316 Indicative Cost Tool
Annex 08	CMP316 Worked Examples for WACM1
Annex 09	CMP316 First Code Administrator Consultation responses
Annex 10	CMP316 Workgroup Action Log (Workgroups 12-14)
Annex 11	CMP316 Second Code Administrator Consultation responses
Annex 12	CMP316 First Final Modification Report
Annex 13	CMP316 Authority Send-Back Letter
Annex 14	CMP316 Workgroup Action Log post Authority send back
Annex 15	CMP316 Second Workgroup Vote
Annex 16	CMP316 Legal text changes made since Authority send-back
Annex 17	CMP316 Third Code Administrator Consultation responses
Annex 18	Proposed change to CMP316 WACM1 Legal Text