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| **CUSC Alternative Form - Charging** |
| **CMP444 Alternative Request:** |
| **Overview:** Alternative Proposal name: Deciles TNUoS Cap & Floor.  Similar to Original Solution, this proposal seeks to introduce caps and floor for each of the individual Peak Tariff, Shared Year Round Tariff, and Not Shared Year Round tariffs. However, the mathematical calculation of the cap and floor is different to the Original Solution. This Alternative Proposal seeks to set, for the 2025-2026 year, the cap as the 9th decile of the 2024 5-year TNUoS projections and the floor as the 1st decile of the same projections. Caps and Floors for following years are calculated with indexation from the 2025-2026 year, in line with the Original Solution. |
| **Proposer:** Emanuele Dentis, Northland Power. |
| I/We confirm that this Alternative Request proposes to modify the charging section of the CUSC only |
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| **Guidance for Alternative Proposers** |
| **Who can raise an Alternative?** Any CUSC or BSC Party, or Citizens Advice can raise an Alternative Request in response to the Workgroup Consultation.  **How do Alternative Requests become formal Workgroup Alternative Modifications?** The Workgroup will carry out a Vote on Alternatives Requests. If the majority of the Workgroup members or the Workgroup Chair believe the Alternative Request will better facilitate the Applicable Objectives than the CUSC Modification Proposal, the Workgroup will develop it as a Workgroup Alternative Modification.  **Who develops the legal text for Alternatives?** ESO will develop the Legal text for all Workgroup Alternative Modifications and will liaise with the Alternative Proposer to do so. |

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1. What is the proposed alternative solution?

Similarly to the Original Solution, this Alternative Proposal seeks to introduce caps and floor for each of the individual Peak Tariff, Shared Year Round Tariff, and Not Shared Year Round tariffs (together referred as the “Tariffs”). This Alternative Proposal seeks to set the cap for the 25-26 year as the 9th decile of the 2024 5-year TNUoS projections and the floor for the 25-26 year as the 1st decile of the same projections. Caps and Floors for following years are calculated with indexation from the 25-26 year, in line with the Original Solution.

1. What is the difference between this and the Original Proposal?

## Purpose

This Alternative Proposal has the same goal as the Original Proposal, namely to introduce caps and floors for each of the individual components of the TNUoS Wider Tariffs.

## Original Proposal – Issue – Calculation

However, the calculation of the caps and floors is different. The Original Proposal sets the cap as the mean of the 2024 5-year TNUoS projections (Electricity System Operator, 2024) + 2 standard deviations, and the floor as the mean – 2 standard deviations.

This Alternative Proposal recognises that using mean + 2 standard deviations is not mathematically appropriate for TNUoS tariffs. The standard deviation is a useful way to summarise variation within data that is normally distributed, i.e. data whose density function follows a bell shape, as shown in Figure 1 below.

A diagram of a normal distribution

Description automatically generated

Figure . A sample normal distribution, where μ is the mean.

In this kind of data, 95% of observations fall within range of mean where is the mean and is the standard deviation (Newbold, et al., 2013).

Below in Figures 2-4 are the density functions of the 5-year 2024 TNUoS Tariffs Projections in real 25-26 terms. The charts below count how many times each tariff in £/kW (rounded to the nearest whole number) occurs across all TNUoS zones and years from 2025-2026 to 2029-2030.

Figure . Density Function of the System Peak Shared Tariff across all TNUoS zones and years from 2025-2026 to 2029-2030. X-axis: £/kW (in real 2025-2026), y-axis: count.

Figure . Density Function of the Year Round Shared Tariff across all TNUoS zones and years from 2025-2026 to 2029-2030. X-axis: £/kW (in real 2025-2026), y-axis: count.

Figure . Density Function of the Year Round Not Shared Tariff across all TNUoS zones and years from 2025-2026 to 2029-2030. X-axis: £/kW (in real 2025-2026), y-axis: count.

It is self-evident that the **Year Round Shared (“YRS”) and Year Round Not Shared (“YRNS”) are not normally distributed**.

## Original Proposal – Issue – Implications

As a result of the inappropriateness of the mean 2 standard deviations to set the cap and floor for each of the individual Tariffs, in the Original Proposal **the floors are calculated to be below the lowest projected YRS and YRNS tariffs**. This is because the fails to capture 95% of the data, with (“SD Floor”) falling outside of the data range for the YRS and YRNS tariffs, as shown in figures 5 & 6.

Figure . Year Round Shared Tariff for the 5-year projection across zones (on the x-axis) and years (between lines). SD Floor falls outside of the range of the data.

Figure . Year Round NOT Shared Tariff for the 5-year projection across zones (on the x-axis) and years (between lines). SD Floor falls outside of the range of the data.

This further proves that using mean 2 standard deviations is inappropriate to set cap & floors. As a result, **the Original Proposal fails to deliver on the Ofgem Open Letter**, which recommended the introduction of a “lower limit” to TNUoS tariffs, as well as a cap (Mills, 2024).

## Alternative Proposal – Calculation

Deciles are recommended to measure variation in non-normal distributions with skews and outliers (Newbold, et al., 2013), (Casella & Berger, 2002). Outliers are data points that are unusually low or high relative to the remainder of the data set, such as the lowest and highest points for the YRS Tariff on the x-axis in Figure 3. Skewed distributions are those where data is clustered on one side, such as YRNS Tariff in Figure 4.

**Given the nature of the YRS and YRNS distributions, this Alternative Proposal argues that deciles are a more appropriate way to capture variation within the Tariffs** and, therefore, proposes for each of the individual TNUoS Tariff, to set:

* **A floor for the 2025-2026 year calculated as the 1st decile of the 2024 5-year projections**; and
* **A cap for the 2025-2026 year calculated as the 9th decile of the 2024 5-year projections**.

It is proposed that the floor and cap values for followings years is derived by inflating the 2025-2026 cap & floor values by the appropriate CPI-H indexation measure, as per the Original Proposal.

The Alternative Proposer is currently unable to provide an indication of what Wider Tariff would be under the cap & floor set by this Alternative Proposal. This is because the calculation of the tariffs depends on the Adjustment Tariff, which is an output of NESO’s Transport and Tariff model. The Alternative Proposer is working with NESO to provide these figures at the earliest opportunity.

## Alternative Proposal – Output

This Alternative Proposal results in the following caps and floors:

|  |  |
| --- | --- |
| System Peak Tariff | |
| Cap | **Floor** |
| 4.395566 | - 1.321148 |

|  |  |
| --- | --- |
| Shared Year Round Tariff | |
| Cap | **Floor** |
| 21.474544 | - 6.853637 |

|  |  |
| --- | --- |
| Not Shared Year Round Tariff | |
| Cap | **Floor** |
| 19.602601 | - 0.010481 |

Table 1. Caps and Floors for the components of the Wider Tariff under this Alternative Proposal.

For an intermittent generation with 45% ALF, this Alternative Proposal results in the following Wider Tariff:

Figure 7. Example Wider Tariff for an Intermittent Generation with 45% ALF using the Cap and Floor values in Table 1.

The example Wider Tariff in Figure 7 uses an Adjustment Tariff calculated by NESO based on the Cap and Floor values in Table 1.

For reference, the below is the Wider Tariff calculated under NESO’s original proposal:

Figure 8. Example Wider Tariff for an Intermittent Generator with 45% ALF under NESO's Original Proposal.

## Alternative Proposal – Ofgem Open Letter

Table 2 below summarises how this Alternative Proposal better meets Ofgem’s Open Letter points, as specified in the Terms of Reference for this CMP444 (National Energy System Operator, 2024).

|  |  |  |
| --- | --- | --- |
| Ofgem’s Open Letter Points. Proposal… | Original Proposal | This Alternative Proposal |
| Is cost-reflective | ✓ | ✓ |
| Establishes appropriate individual, upper and lower limits for induvial Tariffs | 🗶  Using standard deviation is not mahtematically appropriate | ✓ |
| Retains locational differentials | ✓ | ✓ |
| Complies with Regulation 838/2010 | ✓ | ✓ |
| Can be implemented without NESO revising its TNUoS forecasting approach | ✓ | ✓ |
| Can be implemented from April 2026 | ✓ | ✓ |
| Also provides a floor – ”a cap without a floor would […] result in inefficient signals” (Mills, 2024) | 🗶  Effectively doesn’t provide a floor | ✓ |
| Reduces investment uncertainty | ✓ | ✓ |
| Facilitates achievement of Clean Power 2030 | ✓ | ✓ |
| Protects the interest of consumers | 🗶  Consumers subsidise negative unfloored tariffs | ✓ |
| Is simple – Ofgem rejected other CMPs particularly due to “the complexity of the methodology and deliverability” (Mills, 2024) | ✓ | ✓ |

Table . Comparison of how The Original Proposal and This Alternative Proposal meet Ofgem's requirements for the TNUoS Cap & Floor.

1. What is the impact of this change?

|  |  |
| --- | --- |
| **Proposer’s Assessment against CUSC Charging Objectives** | |
| **Relevant Objective** | **Identified impact** |
| (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; | **Positive:** As per the Original Proposal this change would facilitate enhanced competition in generation, by decreasing uncertainty for projects, allowing them to proceed at competitive costs, whether CfD supported or not. |
| (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); | **Positive:** This proposal retains the cost-reflective element of TNUoS charges, finding a better level of balance between cost reflectivity and ensuring project required to meet Clean Power 2030 Plan are delivered. |
| (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; | **Neutral:** NO relevant developments apply. |
| (d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency \*; and | **Positive:** Once an appropriate Adjustment Tariff is calculated and applied, this proposal is consistent with these regulations. |
| (e) Promoting efficiency in the implementation and administration of the system charging methodology. | **Positive:** This proposal is easy to calculate and does not increase the admin burden for NESO significantly and no more so that the Original proposal. |
| \*The Electricity Regulation referred to in objective (d) 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. | |

When will this change take place?

**Implementation date:**

Same as Original Proposal, 1st April 2026.

**Implementation approach:**

Same as Original Proposal, only requiring a slight adjustment to how the value of the cap and floor are derived.

1. Acronyms, key terms and reference material

## Key Terms

|  |  |
| --- | --- |
| **Acronym / key term** | **Meaning** |
| Deciles | A statistical measure that divides a dataset into 10 equal parts, raking data from smallest to largest. Each decile represents 10% of the data. |
| 1st Decile | The value below which the lowest 10% of the forecast Tariffs sit. |
| 9th Decile | The value below which the lowest 90% of the forecast Tariffs sit. |
| Mean | The mean (or arithmetic average) is a measure of the central tendency of a dataset. It is calculated by summing up all the values in the dataset and dividing the total by the number of values. |
| NESO | National Energy System Operator |
| Standard Deviation | The standard deviation measures the amount of variation or dispersion in a dataset. It indicates how much individual data points deviate, on average, from the mean. A low standard deviation means the data points are close to the mean, while a high standard deviation indicates they are spread out. |

# References

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## Figures

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