

## CUSC Workgroup Consultation

# CMP332: Transmission Demand Residual bandings and allocation (TCR)

**Overview:** This CUSC Modification Proposal will deliver part of Ofgem's TCR decision concerning the Transmission Demand Residual by creating a methodology by which the residual element of demand TNUoS can be apportioned to Half Hourly (HH) and Non Half-Hourly (NHH) demand, and a separate methodology to determine the 'bands' against which the residual element of demand TNUoS is levied.

## Modification process & timetable

1	<ul style="list-style-type: none"> <li>• <b>Proposal form</b></li> <li>• 12 December 2019</li> </ul>
2	<ul style="list-style-type: none"> <li>• <b>Workgroup Consultation</b></li> <li>• 06 February 2020 - 27 February 2020</li> </ul>
3	<ul style="list-style-type: none"> <li>• <b>Workgroup Report</b></li> <li>• 19 March 2020</li> </ul>
4	<ul style="list-style-type: none"> <li>• <b>Code Administrator Consultation</b></li> <li>• 1 April 2020 - 24 April 2020</li> </ul>
5	<ul style="list-style-type: none"> <li>• <b>Draft Code Modification Report</b></li> <li>• 20 May 2020</li> </ul>
6	<ul style="list-style-type: none"> <li>• <b>Final Code Modification Report</b></li> <li>• 9 June 2020</li> </ul>
7	<ul style="list-style-type: none"> <li>• <b>Implementation</b></li> <li>• 01 April 2021</li> </ul>

Have 5 minutes? Read our [Executive summary](#)

Have 20 minutes? Read the full Workgroup Consultation document

Have 30 minutes? Read the full Workgroup Consultation document and annexes

**Status summary:** Workgroup Consultation. The Workgroup are seeking your views on the work completed to date to form the final solution(s) to the issue raised

**This modification is expected to have a: high impact** National Grid ESO, Distribution Network Operators, Suppliers and Demand Users connected to the Transmission Network

**Governance route** This modification will be assessed by a Workgroup and Ofgem will make the decision on whether it should be implemented

**Who can I talk to about the change?**

**Proposer:** Grahame Neale, National Grid ESO

[grahame.neale@nationalgrideso.com](mailto:grahame.neale@nationalgrideso.com)

07971180392



**Code Administrator Chair:** Paul Mullen

[paul.j.mullen@nationalgrideso.com](mailto:paul.j.mullen@nationalgrideso.com)

07794537028

**How do I respond?**

Send your response proforma to [cusc.team@nationalgrideso.com](mailto:cusc.team@nationalgrideso.com) by **5pm on 27 February 2020**

## Executive Summary

CMP332 will deliver part of Ofgem's TCR direction<sup>1</sup> concerning the Transmission Demand Residual by creating a methodology by which the residual element of demand Transmission Network Use of System (TNUoS) tariffs can be apportioned to Half Hourly (HH) and Non Half-Hourly (NHH) demand, and a separate methodology to determine the 'bands' against which the residual element of demand TNUoS is levied.

### What is the issue?

Currently, network cost recovery incentivises inefficient actions and there are differences in treatment across transmission and distribution. The Authority carried out a Significant Code Review (SCR) to address this issue, and on 21 November 2019 directed ESO to raise such modifications as are necessary to give effect to their Decisions under their Targeted Charging Review (TCR) SCR. CMP332 is concerned with the treatment of the residual element of Demand TNUoS.

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

**Proposers solution and implementation date:** The ESO will determine<sup>2</sup> and publish the Bands that apply at each voltage level, having calculated the Bands in accordance with the requisite percentiles.

The Proposer believes, pending the outcome of the Access and Forward-

Looking Charges SCR, that in demand zones where the locational demand TNUoS tariff (£/kW for HH metered users based on consumption over triad or p/kWh for NHH metered users based on 4-7PM chargeable volume) is negative, the locational charge should be floored at £0 and a demand user should not be incentivised to consume over peak periods.

**Implementation date:** As directed by the Authority this change needs to be implemented to be effective from 1 April 2021 Charging Year.

### What is the impact if this change is made?

#### Who will it impact?

This modification will impact National Grid ESO, Distribution Network Operators, Suppliers and Demand Users connected to the Transmission Network.

Ofgem has established that there are consumer benefits to this change due to certain types of customers no longer being able to avoid the costs of residual transmission charges.

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<sup>1</sup> <https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-decision-and-impact-assessment>

<sup>2</sup> Note that whilst ESO will calculate the transmission banding, it will be an 'agent' that will be responsible for the DNO-connected customer banding. This "agent" is likely to be ESO.

## Workgroup Consultation

### Contents:

- **Introduction**
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- **What is the impact of this change?**
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- **How to respond**
- **Acronym table and reference material**

## Introduction

This document is the CMP332 **Workgroup's Consultation**. This document outlines;

- What the issue is
- What solution has been brought forward by the Proposer
- Workgroup considerations
- What other solutions the Workgroup has been considering
- The business rules that will be used to form the basis of the legal text post consultation

The Workgroup is seeking views on the proposed change and what it has worked on so far. The questions it is seeking answers on are embedded within the document and outlined in the **How to respond** section.

## What is the issue?

### What is the issue?

This CUSC Modification Proposal (CMP332) will deliver part of Ofgem's Targeted Charging Review decision concerning the Transmission Demand Residual by creating a methodology by which the residual element of Demand TNUoS can be apportioned to Half Hourly (HH) and Non Half-Hourly (NHH) demand, and a separate methodology to determine the 'bands' against which the residual element of demand TNUoS is levied.

### Why is it an issue?

The full rationale for this change can be found in Ofgem's [Targeted Charging Review Significant Code Review \(TCR SCR\) Decision](#). The ESO has raised this change to comply with the direction which was issued following that review. The rationale for the Decision(s) made by the Authority in respect of the TCR SCR can be found in the Ofgem/GEMA publications relating to that SCR. The ESO, as per Condition C10 (para 6C(a)) of its Licence, and Section 8.17.6(a) of CUSC, is required to raise CMPs when Directed to do so by the Authority.

## What is the solution?

**Proposer's solution:** The ESO will determine<sup>3</sup> and publish the Bands that apply at each voltage level, having calculated the Bands in accordance with the requisite percentiles.

The current demand charging methodology as is:

1. Takes the zonal HH locational tariff output of the ESO's model for calculating TNUoS Tariffs (DCLF ICRP), and multiplies it by the zonal forecast gross volume (MW) at system peak, to derive a 'target' value of revenue to be recovered from the demand locational in each zone (for example, using the forecast 20/21 tariff information, zone 14 tariff of £3.97/kW multiplied by 2550MW would give a total expected locational recovery of £10.12m);
2. The total (national) value to be recovered from demand is the sum of the Transmission Operator's (TOs') allowed revenues, minus the value determined in Paragraph 14.14.5(v), which is payable by generators, plus the cost of the Embedded Export Tariff;
3. The total value to be recovered as determined in step 2, minus the expected revenue recovered through the HH demand locational (the £10.12m in step 1, plus the other 13 locational expected recoveries calculated in the same way) is the residual, which is then divided by the national forecast gross volume (MW) at system peak to create the HH residual £/kW which is added to the ESO's model for determining TNUoS Tariffs (DCLF ICRP) output to create the HH Final Tariff. NHH tariffs are the total 'target' revenue (i.e. the £10.12m), minus the expected recovery over Triad (i.e. the HH final tariff charged over Triad demand), divided by the NHH MWh. No NHH residual is currently calculated. All demand gross tariffs are floored at £0.

This methodology needs to change, such that steps 1 and 2 above remain unchanged, but step 3 becomes:

3a. The non-residual revenue recovered from HH demand is the zonal Triad demand multiplied by the zonal locational tariff (taking zone 14 again, £3.97/kW multiplied by 738.38MW = £2.93m). The remaining locational zonal amount to collect, per step 1 (in this case £10.12m minus £2.93m, so £7.19m) must then be applied to NHH. The locational value attributed to NHH through this process should then be divided by the 4-7PM chargeable NHH volume to derive a p/kWh NHH locational tariff.

As a result of this initial change, there will be specific NHH and HH locational tariffs for each demand tariff zone.

The sum of revenues recovered through locational tariffs, subtracted from the value determined in step 2 above (the demand residual) needs to be allocated between each voltage or category, and within voltage between each residual charging band. It is proposed that the process for this should be initially to create charging groups, which shall be (i) domestic, and, for non-domestic: (ii) LV-connected with no chargeable MIC, (iii) LV-connected with a chargeable MIC, (iv) HV-connected, (v) EHV-connected and (vi) Transmission-connected. Within each Charging Group will be one or more bands set in

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<sup>3</sup> Note that whilst ESO will calculate the transmission banding, it will be an 'agent' that will be responsible for the DNO-connected customer banding. This "agent" is likely to be ESO.

accordance with the percentiles specified in the Direction, i.e. the 40th, 70th and 85th percentiles. Following determination of the Charging Groups and bands:

1. The amount of residual payable by 'final demand sites' in each Charging Group should be calculated by taking the total of the HH and NHH annual volume consumed by that Group (MWh) and dividing it by the national HH and NHH annual volume (MWh), converted into a percentage then applied to the total residual £m figure; and
2. To split between bands within a Charging Group based on volumes relative to the appropriate total volumes.

The Proposer believes, pending the outcome of the Access and Forward-Looking Charges SCR, that the demand locational tariffs should be floored at £0, such that in zones where the locational element of the tariff is negative as an outcome of either the TNUoS Tariff model (DCLF ICRP) or the above NHH allocative methodology, that the resulting tariff is floored at £0 and users are not paid to consume over peak periods. The demand locational and residual tariffs are currently combined into one chargeable tariff and are strictly non-negative under CUSC 14.17.3. Following TCR implementation the residual and locational elements of demand TNUoS will be charged on a different basis and no longer combined into one chargeable tariff.

## Workgroup Considerations

The Workgroup convened 4 times in January 2020 to discuss the perceived issue, detail the scope of the proposed defect, devise potential solutions and assess the proposal in terms of the Applicable CUSC Objectives.

## Related Modifications

CMP332 is one of four CUSC modifications which will change the way the Transmission Demand Residual (TDR) is calculated and charged as per [Ofgem's TCR SCR Direction](#)<sup>4</sup>. CMP332 develops a methodology for the Demand Residual to be applied only to 'Final Demand' consumers on a 'Site' basis (as per the Direction). CMP332 is not defining these two terms and they are not currently defined in the CUSC; neither is CMP332 addressing the post-tariff aspects of this change, such as billing.

On 16 January 2020, the ESO raised CMP334 to define "Final Demand" and "Site" and CMP335 and CMP336 to update the post-tariff processes within CUSC. CMP335 will address the changes required, by Ofgem's TCR SCR Direction, to Sections 3 and 11 of the CUSC and CMP336 will address the changes required, by Ofgem's TCR SCR Direction, to Section 14 of the CUSC.

CMP334 will be run alongside a Distribution Connection and Use of System Agreement (DCUSA) Change Proposal DCP359, which looks to mirror what CMP334 is seeking to do, but in the DCUSA. This is to ensure that the two defined terms are consistent across the industry. Following progress of CMP332, CMP334 and CMP335/6, the ESO and a Balancing and Settlement Code (BSC) Party will likely raise a BSC Modification Proposal to determine if additional modifications are required to define the data requirements, set

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<sup>4</sup> <https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-decision-and-impact-assessment>

out in the BSC, for the new CUSC processes. It is likely that the ESO will raise this modification with support from ELEXON.

See the table below which outlines those aspects of the TCR SCR Direction document that concern the TDR and in which industry code modifications these will be covered. According to the ESO and the DNOs, decisions from Ofgem on all these CUSC and DCUSA Modifications are needed before 30 June 2020 in order to meet the 1 April 2021 Implementation Date.

<b>CUSC</b>	<b>CMP332</b> Creation of a methodology to determine (i) the charging bands and (ii) the tariffs for each band.	<b>CMP334</b> This will identify who will be liable to pay the TDR by defining 'Final Demand' and 'Site'.	<b>CMP335/CMP336</b> Update all of the 'post tariff setting' processes (e.g. band allocation, securitisation etc) to reflect the TDR methodology.	
<b>DCUSA</b>	<b>DCP358</b> Determination of Banding Boundaries	<b>DCP359</b> Customers – who should pay?	<b>DCP360</b> Allocation to Bands and Interventions	<b>DCP361</b> Calculation of Charges
<b>BSC</b>	Following progress of CMP332, CMP334 and CMP335/6, ESO and a BSC Party will likely raise a BSC Modification Proposal to determine if additional modifications are required to define the data requirements for the new CUSC processes.			

To ensure that the proposed Modifications cover the TCR SCR Decision, we have included in Annex 6 a mapping table showing which CUSC and DCUSA Modification covers which paragraph of the TCR SCR Decision.

**Workgroup Consultation Question: Based on the mapping table in Annex 6, does the proposed CMP332 solution deliver Ofgem's TCR SCR Direction? Please identify any areas you believe need to be addressed.**

The CMP332 Workgroup met prior to CMP334 and CMP335/336 being raised. Therefore, the Workgroup have talked through areas that will be addressed within those two modifications and the related DCUSA modifications rather than directly through CMP332. The table below shows in which Modifications these areas will be further developed:

Definitions of "Site" and "Final Demand"	To be addressed within joint Workgroup CMP334 and DCP359
Use of Line Loss Factor Class (LLFC)	To be addressed within DCP360 and DCP361

Process for disputes in the event that a User believes they have been allocated to the wrong tariff band	To be addressed within CMP335/336 and DCP360
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Although the above will not be in the scope of the CMP332 Workgroup Consultation, we agreed to ensure these discussions are shared with the Workgroups for those other Modifications. These discussions are set out in Annex 8 of this Workgroup Report.

**Scope of CMP332**

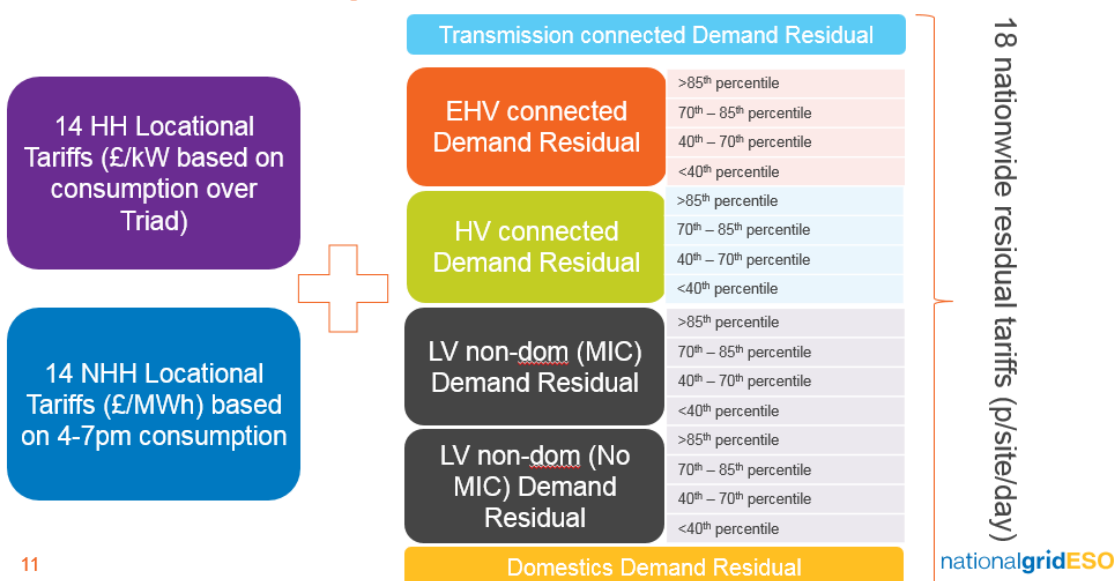
The CMP332 Workgroup focused on the following key themes for this modification:

1. Calculating the residual charging bands (including the data that is required to set the bands);
2. Calculating the Residual Tariffs (including the data that the ESO requires for tariff setting); and
3. Treatment of demand zones that have a negative locational tariff

**1) Calculating the residual charging bands (including the data that is required to set the bands)**

The Proposer shared some analysis which supported the proposal to have one charging band for Transmission connected customers (as per paragraph 18 of the Direction - this is set out in Annex 5). The Proposer stated there is potential merit in a 2<sup>nd</sup> band for large transmission demand sites in future; however, a limited number of sites (<6) would be in this band at present. The Workgroup considered this analysis and if there is a need for a 2<sup>nd</sup> band for large transmission demand site now. As no definitive conclusions were reached, the Workgroup agreed to ask for industry’s their thoughts as part of this Workgroup Consultation.

**1. Structure of Proposed Demand TNUoS tariffs**



**Workgroup Consultation Question: CMP332 solution proposes to have one Transmission Band for the demand residual charge. Do you agree, if not what do you suggest instead, and why?**

To determine<sup>5</sup> and publish the necessary bands for the demand residual charge that apply at each voltage level, the ESO will require pre-validated data from the Distribution Network Operators (DNOs) and Independent Network Operators (IDNOs). The TCR SCR Direction specifies that allocating demand customers to the charging bands should be based on a minimum of 24 months' data, and for appropriate arrangements to be made where this data is not available. The TCR SCR Direction does not define the basis of the data to be used when setting the charging bands.

DNOs confirmed to the CMP332 Workgroup that they would use 12 months data to set the charging bands initially as they consider this to be the only viable option for banding to be done consistently across all customers. This is because DNOs do not have actual HH metered data for all customers; as they lack data for small non-domestic with NHH Metering Systems. For customers where actual HH metered data is unavailable, the DNOs propose to use Estimated Annual Consumptions (EACs) or Default EACs<sup>6</sup> for NHH customers. For any customers to whom this does not capture, including HH customers (e.g. new connections without 12 months' of data), consumption will generally be assumed to be in line with the average directly comparable customer. It was agreed that all DNOs would use the same standard 12 month period (date range to be confirmed) to ensure consistency across Great Britain.

**Workgroup Consultation Question: The TCR SCR Direction specifies that 24 months of data is required to allocate the customers to charging bands. The Original solution (for CMP332) proposes to use a standard 12 months period for all. What period of historical data do you think is required for setting the bands, and why?**

The Workgroup noted there would be a timing discrepancy between when the DNOs publish their Distribution Use of System tariffs (15 months ahead of when their tariffs become "live"<sup>7</sup>) and when the ESO publish the Transmission Network Use of System tariffs (two months before the start of the Charging Year in which they become "live"<sup>8</sup>). Some Workgroup Members questioned whether the ESO should use the same data for the Charging Year as the DNO<sup>9</sup>, or whether they could use the DNO's most recent forecast<sup>10</sup>; however, some Workgroup members were concerned that we should not look to define a

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<sup>5</sup> Note that whilst ESO will calculate the transmission banding, it will be an 'agent' that will be responsible for the DNO-connected customer banding. This "agent" is likely to be ESO.

<sup>6</sup> Default EACs are published on the ELEXON Portal, which DNOs have access to.

<sup>7</sup> For example, for Charging Year 2021-22 purposes, the data is sourced in December 2019.

<sup>8</sup> For example, for Charging Year 2021-22 purposes, the data is sourced in January 2021.

<sup>9</sup> So, in this illustrative example, for Charging Year 2021-22 purposes, the data would be sourced in December 2019.

<sup>10</sup> So, in this illustrative example, for Charging Year 2021-22 purposes, the data would be sourced in January 2021.



different solution between CUSC and DCUSA as this will be detrimental to simplicity, transparency and predictability. The Proposer confirmed they intend to use the DNOs most recent actual data<sup>11</sup>.

## 2) Calculating the Residual Tariffs (including the data that the ESO require for tariff setting)

The Proposer presented the below slide to explain how the residual tariffs would be calculated once the charging bands had been determined:

### 2. How the **total TNUoS Demand Residual (TDR)** could be calculated

#### The potential process for determining TDR;

(A)	TO MAR (£)	-	Generation TNUoS Value (£)	+	Embedded Export Tariff (£)	=	Demand TNUoS Value (£)
(B)*	Zonal HH tariffs (£/MW)	x	Zonal gross peak demand (MW)	=	Expected Zonal revenue (£)		
(C)*	Zonal HH tariffs (£/MW)	x	Zonal Triad demand (MW)	=	Recovered HH Zonal Value (£)		
(D)*	(B)	-	(C)	=	"NHH Zonal Recovery Value" (£)		
(E)*	(D)	+	NHH Chargeable Zonal Volume (MWh)	=	NHH Locational Tariff (£/MWh)		
(F)	(A)	-	Σ(C)	-	Σ(D)	=	TDR Value (£)

(G) Take (F) and apply a methodology to spread value across bandings

8 'usage groups'  
4 percentiles  
= ~18-21 tariff bands

Convert banding values into tariffs (p/site/day)

nationalgridESO

1. Domestic
  2. LV no defined capacity
  3. LV defined capacity
  4. High Voltage
  5. Extra High Voltage
  6. Transmission
- a. <40<sup>th</sup> percentile
  - b. =>40<sup>th</sup> percentile < 70<sup>th</sup> percentile
  - c. =>70<sup>th</sup> percentile <85<sup>th</sup> percentile
  - d. =>85<sup>th</sup> percentile

14  
\* Step run for each zone

In order to set network tariffs, it was assumed in the [Targeted Charging Review Project Initiation document](#)<sup>12</sup> (PID), published in December 2019, that ELEXON's role would be to aggregate existing data used for Settlement and report this to the ESO.

However, the ELEXON observer on the CMP332 Workgroup identified that it does not have visibility of all the source data<sup>13</sup> necessary to report fully to the ESO. Whilst this may be resolved by making changes to HH Data Aggregator and ELEXON systems and processes, the ELEXON observer noted that it may be more cost effective and efficient for the DNOs and IDNOs to provide the data directly to the ESO, rather than via ELEXON. This is because the DNOs already have full visibility of all necessary source data, which they would need to process for their own residual charging purposes.

The Workgroup saw merit in the DNOs providing data directly to the ESO in the short term whilst a long-term solution is being built. However, it was generally agreed by the Workgroup that the long-term solution should be for ELEXON to receive the data and aggregate it into one file, rather than the ESO merging data from all the DNOs and IDNOs. The Workgroup also agreed that this will ensure the data is received by the ESO in a consistent format from all the DNOs.

<sup>11</sup> So, in this illustrative example, for Charging Year 2021-22 purposes, the data would be sourced in January 2021.

<sup>12</sup> <http://www.chargingfutures.com/media/1390/tcr-joint-eso-dno-pid-v10.pdf>

<sup>13</sup> In particular, ELEXON doesn't receive consumption or MSID counts by LLFC for traditional HH Metering Systems; ELEXON does receive this data for NHH, and Smart and Advanced HH Metering Systems.

For tariff setting purposes, the DNOs will send the ESO, or the ESO via an aggregator, actual data and consolidated forecasts per charging band (site numbers and consumption), but the ESO may forecast using its own assumptions.

It is clear from the TCR SCR Direction that disputes may be allowed in “tightly defined circumstances” where “substantial changes in usage” result in “significant changes in the level of agreed capacity”. The Workgroup noted that the “tightly defined circumstances” will be defined as part of CMP335/6 and DCP360. A Workgroup member noted that notwithstanding the “tightly defined circumstances”, there was a general right for parties affected by transmission or distribution network charges to make a complaint directly to Ofgem as, for example, was set out in Section 7.3 of the CUSC (for transmission charging disputes). In the event of successful appeals, there could be an impact on the recovery of TNUoS within the Charging Year. Workgroup members identified two potential impacts from successful appeals<sup>14</sup> after the tariffs are set which are:

- the revenue expected to be recovered in the higher charging band(s) is reduced and the revenue recovered in the lower band(s) would be higher than expected; and
- less revenue, overall, would be recovered than was expected.

The Workgroup felt it was prudent to seek industry views on how this should be treated.

**Workgroup Consultation Question: If there is any revenue under/over recovery due to the differences between the initial allocation of charging bands vs the outturn of such bands, how should this amount be recovered/rebated?**

The ESO is proposing that allocation to bandings is done by all DNOs in a manner consistent with DCUSA; i.e. on the basis of whether the Site has a chargeable MIC or has no MIC. The ESO will receive the consumption and count of ‘Final Demand Sites’ per charging band to establish the proportion of the residual charge to be applied per band and then the residual charge to be applied on a £ per site per day basis.

Where the agreed chargeable capacity (MIC) is available this will be listed and all those Sites who have an agreed capacity fall into Low Voltage with Maximum Import Capacity banding and those without fall into the Low Voltage with No Maximum Import Capacity banding. Primarily for customers who migrate to HH Settlement and where an agreed capacity is needed for the first time, this method of initial allocation could result in sites that have no agreed chargeable capacity being allocated into the LV no MIC band, despite agreed MIC being applicable in distribution charging. Some Workgroup members suggested that we could remove this ambiguity by using Measurement Class<sup>15</sup>, which is already a known term in industry. However, other Workgroup members were concerned that the Measurement Class is not currently monitored and if these were used they would need to be verified.

**Workgroup Consultation Question: Should we use Measurement Classes rather than “No MIC” or “MIC” to determine initial grouping for the charging bands at low voltage, and why?**

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<sup>14</sup> The assumption is that if customers appeal, they are only likely to appeal to drop down a band level (and pay less) than appeal to go up a band level (and pay more).

<sup>15</sup> Measurement Class is an existing defined term / item and helps differentiate between Metering Systems.

### **Unmetered supplies (UMS)**

The ESO proposed originally to include UMS in the LV no chargeable MIC banding. However, the DNO Workgroup member confirmed that DNO's intend to continue to charge for UMS as they do now; i.e. on a consumption basis.

To do this, the ESO would need data<sup>16</sup> on the total UMS consumption per Measurement Classes B and D and further split by Supplier. The Workgroup felt that the LV no MIC tariff could be distorted by allocating all UMS into the LV no MIC band.

The Workgroup noted that it is aware of a specific type of electric vehicle (EV) charging infrastructure that is plugged into compatible street furniture and, as such, is classed as UMS. The Workgroup considered that the use of this type of EV charging is currently immaterial and should continue to be treated as unmetered supply for the purposes of CMP332. However, given the growth in EV charging, if the use of street furniture EV charging increases, this will require future consideration by the industry as it could result in a less cost reflective charging of the demand residual.

**Workgroup Consultation Question: Should UMS be included in the banding structure (e.g. LV no MIC) or charged separately on a volumetric basis?**

### **3) Treatment of zones that have a negative locational tariff**

The Proposer's Original solution is to floor the locational tariff to £0/kW<sup>17</sup>. Ofgem have since clarified to the Workgroup that they have not assumed flooring of the locational demand TNUoS tariffs at £0 in the modelling used to inform the TCR SCR Decision. The Workgroup are concerned that the ESO's Original solution is not in line with the TCR SCR Decision and questioned whether Ofgem would approve this or alternatives to an Original solution that would interact with the ongoing AFLC SCR by removing the locational signal from 8 of the 14 demand tariff zones.

The Workgroup also considered the combined effect of the proposed demand residual changes and the existing negative locational charges and raised the following concerns:

- Maintaining negative demand locational changes, with the TCR SCR directed changes, will mean some users will be paid TNUoS for their use of the transmission system over TRIAD. This could create a perverse incentive for Demand Users to consume over these periods;
- This incentive could cause congestion at Distribution Network level in negatively-charged zones, due to an increase in peak demand at lower voltages, as there is now an incentive to increase demand, rather than a signal to reduce demand at peak times.
- Increasing demand at times of peak system demand in zones with negative locational tariff could push up wholesale prices across Great Britain.

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<sup>16</sup> Expect that this will be provided by DNOs but still to be confirmed

<sup>17</sup> Intention is to floor the locational tariff at £0/kW only and not to floor (at £0/kW) the gross tariffs (locational + residual)

- Flooring the locational demand tariff at £0/kW would, based on the 2019/20 Charging Year, cause distributional effects of ~ £200m on the Residual value as 8 of the 14 demand zones (based on Charging Year 2020-21) have negative locational demand tariffs. An ESO representative shared some initial analysis to show the impacts of flooring the locational demand tariff to £0/kW, which supports this distributional effect - this can be found in Annex 4 of this Workgroup Report. An ESO representative carried out some further analysis on what the impact might be of flooring the locational tariffs on the zonal proportion of the total demand TNUoS bill. That analysis is at this stage only indicative as new tariff forecasts which use the new methodology have not yet been produced. It shows that for the majority of zones the impact is of a change of less than 1% in the current zonal share of the total demand TNUoS bill. For Zone 2, however, the impact is more noticeable. This can be found in Annex 7 of this Workgroup Report.
- Flooring the locational tariff at £0/kW would weaken the locational price signal by setting 8 zones to be the same and reducing cost-reflectivity.

Ofgem's ongoing Review of Access and Forward-Looking Charges SCR will be covering the locational tariff charging methodology. However, as this is not expected to come into effect until the Charging Year starting on 1 April 2023, and given the materiality of the above impacts, the Workgroup felt that interim solutions to cover the two intervening Charging Years (for the period 1 April 2021 to 31 March 2023) should be brought forward as part of CMP332.

The Workgroup identified 3 further possible solutions that could apply until Ofgem's Access and Forward-Looking Charges SCR is implemented. These are:

- 1. Gross flooring the overall transmission demand charges taking into account both the locational and residual tariffs.**
  - Locational signal calculated by capping volume of capacity for the site to be charged for the 2021-2022 and 2022-2023 Charging Years based on National TRIAD in the 2019-2020 Charging Year.
    - i. Impact: Removes the behavioural incentive to increase demand at TRIAD in 2021-2022 and 2022-2023 Charging Years.
- 2. Calculate and apply the locational tariffs over a larger number of half-hourly periods e.g. non-half hourly methodology (annual consumption between 4pm and 7pm) to half hourly (i) across GB or (ii) just zones with negative locational charges.**
  - i. Impact: Dilutes the signal to consume within the TRIAD.
- 3. Maintain locational signal but push demand tariffs above £0.**
  - i. Impact: Maintain relative locational price signal as per current methodology.
  - ii. Concern: Reduces residual from £2.6bn to ~ £1bn.

**Workgroup Consultation Question: Do you have any thoughts on any of the suggested options and/or do you believe there any other options for the Workgroup to consider?**

Further development of these options is subject to Ofgem advising the Workgroup whether or not these are within the scope of Ofgem's ongoing SCR. If Ofgem agree that these options are within the scope of the ongoing SCR, then the Workgroup also need Ofgem to confirm if (a) they give permission for the Workgroup to progress these as possible

solution(s) for CMP332 or (b) instruct the Workgroup to not carry out any further work on these options for CMP332.

### **Draft Legal text**

Legal text will be drafted after Workgroup Consultation phase has been completed.

## **What is the impact of this change?**

### **Who will it impact?**

This is a large-scale industry change that will require amendments and consequential changes to all Supplier and DNO (and IDNO) internal and external (customer facing) processes. In particular, the ESO will require data input for individual site level information of capacity and annual consumption and the total number of site counts per relevant charging band or category. This will further need to be broken down by Grid Supply Point Group and Registrant to allow relevant billing processes to take place.

There is a contingency between this Modification Proposal and the DCUSA/BSC/MRA<sup>18</sup> changes – this Modification Proposal will create the charging methodology, but it cannot be practically implemented until the relevant non-CUSC changes are approved and the requisite data-gathering processes are completed.

### **What are the positive impacts?**

Ofgem has established that there are consumer benefits to this change due to certain types of customers no longer being able to avoid the costs of residual transmission charges.

### **Proposer's Assessment against Code Objectives**

<b>Impact of the modification on the Code objectives:</b>	
<b>Relevant Objective</b>	<b>Identified impact</b>
(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
(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);	None

<sup>18</sup> There is unlikely to be an MRA change in the short term, but there is potential for one in the future.

(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;	Positive as ESO has been directed to raise this modification and implement its effects by the Authority.
(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and	None
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	None

**Workgroup Consultation Question:** Do you believe that CMP332 Original proposal better facilitates the Applicable CUSC Objectives?

### When will this change take place?

This change must be implemented so that it takes practical effect, in terms of charges paid by users /customers, from the next Charging Year, starting on 1 April 2021.

For the ESO to be able to meet the Implementation Date of 1 April 2021, a decision on CMP332 is required from Ofgem by the end of June 2020 to enable the ESO to undertake the necessary system changes and gather the data required in order to set the applicable charges.

The Workgroup noted that it would be prudent to include a transitional period such that Customers have sufficient time to check and review their indicative site charging band allocation(s) and therefore avoid charging disputes post implementation. However, the Workgroup also noted that including such a transitional period will cause further risk to the Implementation Date of 1 April 2021. CMP335/336 Workgroup will consider this further.

**Workgroup Consultation Question:** Do you support the implementation approach?

## Standard Workgroup Consultation questions:

1. Do you believe that CMP332 Original proposal better facilitates the Applicable CUSC Objectives?
2. Do you support the proposed implementation approach?
3. Do you have any other comments?
4. Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?

## Specific Workgroup Consultation questions:

5. Based on the mapping table in Annex 6, does the proposed CMP332 solution deliver Ofgem's TCR SCR Direction? Please identify any areas you believe need to be addressed.
6. CMP332 solution proposes to have one Transmission Band for the demand residual charge. Do you agree, if not what do you suggest instead, and why?
7. The TCR SCR Direction specifies that 24 months of data is required to allocate the customers to charging bands. The Original solution (for CMP332) proposes to use a standard 12 months period for all. What period of historical data do you think is required for setting the bands, and why?
8. If there is any revenue under/over recovery due to the differences between the initial allocation of charging bands vs the outturn of such bands, how should this amount be recovered/rebated?
9. Should we use Measurement Classes rather than "No MIC" or "MIC" to determine initial grouping for the charging bands at low voltage, and why?
10. Should UMS be included in the banding structure (e.g. LV no MIC) or charged separately on a volumetric basis?
11. Do you have any thoughts on any of the suggested options and/or do you believe there any other options for the Workgroup to consider?

## How to respond

The Workgroup is seeking the views of CUSC Users and other interested parties in relation to the issues noted in this document and specifically in response to the questions above.

Please send your response to [cusc.team@nationalgrideso.com](mailto:cusc.team@nationalgrideso.com) using the response pro-forma which can be found on the National Grid ESO website via the following link: <https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/cmp332-transmission-demand-residual>

In accordance with Governance Rules if you wish to raise a Workgroup Consultation Alternative Request please fill in the form that can be located at the following link or get in contact with us via email at [cusc.team@nationalgrideso.com](mailto:cusc.team@nationalgrideso.com)

<https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc>

*If you wish to submit a confidential response, please note that information provided in response to this consultation will be published on National Grid ESO's website unless the response is clearly marked "Private & Confidential", we will contact you to establish the extent of the confidentiality. A response marked "Private & Confidential" will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the CUSC Modifications Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response. Please note an automatic confidentiality disclaimer generated by your IT System will not in itself, mean that your response is treated as if it had been marked "Private and Confidential".*

## Acronym table and reference material

Acronym	Meaning
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
DCLF ICRP model	Direct Current Load Flow Investment Cost Related Pricing Model – otherwise known as the Transport and Tariff model for calculating TNUoS tariffs.
DCP	Distribution Code Proposal
DCUSA	Distribution Connection and Use of System Agreement
DNO	Distribution Network Operator
EAC	Estimated Annual Consumption
EHV	Extra High Voltage
ESO	National Grid Electricity System Operator
EV	Electric Vehicle
HH	Half Hourly
HV	High Voltage
IDNO	Independent Distribution Network Operator
LLFC	Line Loss Factor Class
LV	Low Voltage
MIC	Maximum Import Capacity
MPAN	Meter Point Administration Number
MRA	Master Registration Agreement
NHH	Non Half Hourly
PID	ENA Targeted Charging Review Project Initiation document
SCR	Significant Code Review
TNUoS	Transmission Network Use of System
TCR	Targeted Charging Review
TDR	Transmission Demand Residual
UMS	Unmetered Supplies

### Reference material:

1. [Ofgem direction letter](#)
2. [Ofgem Targeted Charging Review decision](#)
3. [ENA Targeted Charging Review Project Initiation document](#)



**Annexes**

Annex	Information
Annex 1	CMP332 Proposal Form
Annex 2	Terms of Reference
Annex 3	CMP332 Proposer's Presentation
Annex 4	Worked example of Transmission Demand Residual Calculation
Annex 5	Transmission Demand Residual Transmission Banding Analysis
Annex 6	Transmission Demand Residual Cross Code Mapping
Annex 7	Impact of flooring the locational tariffs on the zonal proportion of the total demand TNUoS bill
Annex 8	Related Modifications Discussions
Annex 9	Clarification sought by Workgroup from Ofgem