

## CUSC Modification Proposal Form

# CMP389: Transmission Demand Residual (TDR) band boundaries updates

**Overview:** This modification aims to implement changes related to band boundaries as stated in paragraph 3.12 of Ofgem's recent decision on CUSC modification CMP343.

## Modification process & timetable



**Status summary:** The Proposer has raised a modification and is seeking a decision from the Panel on the governance route to be taken.

### This modification is expected to have a: High impact

Suppliers, Transmission Connected Demand Sites

### This modification is expected to have a: Low impact

ESO

<b>Proposer's recommendation of governance route</b>	Standard Governance modification to proceed to Code Administrator Consultation	
<b>Who can I talk to about the change?</b>	<b>Proposer:</b> Grahame Neale <a href="mailto:Grahame.Neale@nationalgrideso.com">Grahame.Neale@nationalgrideso.com</a> 07787261242	<b>Code Administrator Contact:</b> Paul Mullen <a href="mailto:Paul.j.mullen@nationalgrideso.com">Paul.j.mullen@nationalgrideso.com</a> 07794537028

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## What is the issue?

On 10<sup>th</sup> March 2022, Ofgem published their decisions on the CUSC modifications (CMP335/6 and CMP340/3<sup>1</sup>) which implement the TNUoS Demand Residual (TDR) changes as a result of the Targeted Charging Review (TCR). As part of their decisions, Ofgem highlighted several small changes / clarifications that would be beneficial; this modification is part of a suite of CUSC modifications to implement these improvements, which includes CMP388 and other modifications that will be raised in future.

This modification looks to specifically clarify the following from Ofgem's CMP343 decision;

*“3.12. In addition, following further analysis (later in the Chapter), we would ask the ESO to consider raising a modification proposal to examine the location of the band boundaries (in terms of the percentiles that the boundary falls between<sup>29</sup>), particularly if updated data is used for allocating users to bands. Such a review of the distribution of sites across charging bands may allow band boundaries to be drawn in such a way as to help avoid clustering of similar sites either side of a given boundary.”*

## Why change?

The rationale for the Decision(s) made by the Authority in respect of the TCR and the related CUSC modifications can be found in the Ofgem / Gas and Electricity Markets Authority (GEMA) publications relating to the TCR and the CUSC modifications.

This modification looks to clarify to industry the percentiles which will need be in effect for transmission connected sites from April 2023. This is to ensure that similar sites are treated in a similar manner within the TDR methodology.

## What is the proposer's solution?

Following submission of CMP343 to Ofgem and its subsequent approval, additional information is available to quantify the impact on Transmission connected Final Demand Sites of various band boundaries. The analysis supporting this change is located in the annex at the end of this proposal form.

It is proposed that the CUSC is updated with the following text to revise the boundary between band 3 and 4. In practice this means reviewing the boundaries between transmission bands 3 and 4 (currently at the 85<sup>th</sup> percentile) and updating paragraphs 14.15.137 and 14.15.138 accordingly. This proposal will not affect the total amount of TNUoS revenue collected across the population of Transmission connected sites, but will affect the distribution of charges between Users.

Whilst CMP388 is also planning to make changes to these CUSC paragraphs, interactions between this proposal and CMP388 should be avoided due to the minor changes of CMP388. The above analysis is inclusive of the changes proposed in CMP388 and is consistent with previous analysis undertaken by the ESO.

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<sup>1</sup> <https://www.ofgem.gov.uk/cy/publications/decision-cmp343>

**Legal text**

Changes are shown in red text.

14.15.137

To produce the **Transmission Demand Residual Tariffs** a set of **Charging Bands** are to be created for each of the **Residual Charging Groups** using the following methodology.

- (a) For domestic **Final Demand Sites** whether connected to the **Distribution** system or **Transmission** system there will be one **Charging Band** and;
- (b) For non-domestic **Final Demand Sites** connected to the **Distribution** system there will be four **Charging Bands** for each of the **Residual Charging Groups** according to the methodology introduced to Schedule 32 of the **DCUSA** via DCUSA modification DCP358 and entitled 'RESIDUAL CHARGING BANDS' with boundaries set at the 40<sup>th</sup>, 70<sup>th</sup> and 85<sup>th</sup> percentiles and;
- (c) For **Final Demand Sites** directly connected to the **Transmission** system there will be four **Charging Bands** using gross **Consumption** data with boundaries set at the 40<sup>th</sup>, 70<sup>th</sup> and **85<sup>th</sup>-93<sup>rd</sup>** percentiles and;
- (d) For **Unmetered Supplies** there will be one **Charging Band**.

14.15.138 These **Charging Bands** will be reviewed periodically and be implemented effective from the beginning of each **Onshore Transmission Owner** price control period.

Domestic <b>Final Demand Sites</b>	
LV No Mic	Band 1 ( $\leq 40^{\text{th}}$ percentile)
	Band 2 ( $> 40^{\text{th}}$ percentile – 70 <sup>th</sup> percentile)
	Band 3 ( $> 70^{\text{th}}$ percentile – 85 <sup>th</sup> percentile)
	Band 4 ( $> 85^{\text{th}}$ percentile)
LV MIC	Band 1 ( $\leq 40^{\text{th}}$ percentile)
	Band 2 ( $> 40^{\text{th}}$ percentile – 70 <sup>th</sup> percentile)
	Band 3 ( $> 70^{\text{th}}$ percentile – 85 <sup>th</sup> percentile)
	Band 4 ( $> 85^{\text{th}}$ percentile)
HV	Band 1 ( $\leq 40^{\text{th}}$ percentile)
	Band 2 ( $> 40^{\text{th}}$ percentile – 70 <sup>th</sup> percentile)
	Band 3 ( $> 70^{\text{th}}$ percentile – 85 <sup>th</sup> percentile)
	Band 4 ( $> 85^{\text{th}}$ percentile)
EHV	Band 1 ( $\leq 40^{\text{th}}$ percentile)
	Band 2 ( $> 40^{\text{th}}$ percentile – 70 <sup>th</sup> percentile)
	Band 3 ( $> 70^{\text{th}}$ percentile – 85 <sup>th</sup> percentile)
	Band 4 ( $> 85^{\text{th}}$ percentile)
<b>Directly Connected Users Final Demand Sites</b>	Band 1 ( $\leq 40^{\text{th}}$ percentile)
	Band 2 ( $> 40^{\text{th}}$ percentile – 70 <sup>th</sup> percentile)
	Band 3 ( $> 70^{\text{th}}$ percentile – <b>85<sup>th</sup>-93<sup>rd</sup></b> percentile)
	Band 4 ( <b><math>&gt; 85^{\text{th}}</math>-93<sup>rd</sup></b> percentile)
<b>Unmetered Supplies</b>	

## 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;	<b>Positive</b> These clarifications will better reflect similar sites paying similar charges
(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);	<b>Neutral</b>
(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;	<b>Neutral</b>
(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	<b>Neutral</b>
(e) Promoting efficiency in the implementation and administration of the system charging methodology.	<b>Positive</b> These clarifications will provide greater certainty and transparency regarding the methodology.

\*Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).

### Proposer's assessment of the impact of the modification on the stakeholder / consumer benefit categories

Stakeholder / consumer benefit categories	Identified impact
Improved safety and reliability of the system	<b>Neutral</b>
Lower bills than would otherwise be the case	<b>Neutral</b>

Benefits for society as a whole	<b>Neutral</b>
Reduced environmental damage	<b>Neutral</b>
Improved quality of service	<b>Positive</b> Clarity will provide better visibility to Suppliers of how Final Demand Sites will be charged and so enable Suppliers to provide better service to their customers.

## When will this change take place?

### Implementation date

1 April 2023

### Date decision required by

31 December 2022 for use in publishing final tariffs for 1 April 2023, however a decision by 1 October 2022 is preferred so it can be considered in draft tariffs for April 2023.

Note that if Panel decide that this should proceed to Workgroup instead of Code Administrator Consultation, the Final Modification Report would not be issued to Ofgem until 11 October 2022.

### Implementation approach

To align with implementation of CMP343

### Proposer's justification for governance route

Governance route: Standard Governance modification to proceed to Code Administrator Consultation

This proposal looks to implement the clarifications to the methodology as per Ofgem's decisions on CMP335/336 and CMP340/343. However, it is appropriate for Ofgem to make the final decision as they have done so for previous Transmission Demand Residual Modifications especially given materiality.

Progression to Code Administrator Consultation will provide industry the earliest visibility of change and provide the maximum amount of time to plan any consequential impacts. In addition, wider transparency will be provided for such that these changes can be reflected in draft tariffs in October 2022. Without progression to Code Administrator Consultation, it is likely that this modification may need to request urgency to ensure ESO's compliance obligations are met.

## Interactions

- |  |  |   |                                |
|--|--|---|--------------------------------|
| <input type="checkbox"/> Grid Code                 | <input type="checkbox"/> BSC                                 | <input type="checkbox"/> STC                    | <input type="checkbox"/> SQSS  |
| <input type="checkbox"/> European<br>Network Codes | <input type="checkbox"/> EBR Article 18<br>T&Cs <sup>2</sup> | <input type="checkbox"/> Other<br>modifications | <input type="checkbox"/> Other |

No impact on other industry codes is expected

## Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
EBR	Electricity Balancing Regulation
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
GEMA	Gas and Electricity Markets Authority
TCR	Targeted Charging Review
TDR	Transmission Demand Residual

### Reference material

- None

<sup>2</sup> If your modification amends any of the clauses mapped out in Exhibit Y to the CUSC, it will change the Terms & Conditions relating to Balancing Service Providers. The modification will need to follow the process set out in Article 18 of the Electricity Balancing Guideline (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.

**Annex – Supporting Analysis**

As per CMP336 (and clarified in the proposed CMP388), sites will be allocated to bands based on the mean average of the latest 24 months consumption data. Some transmission connected sites can have highly variable consumption between time periods and this is shown in Figure 1 which shows 2019-21, 2020-22<sup>3</sup> and 2019-22<sup>3</sup> (i.e. 3 years) of average annual consumption for each site.

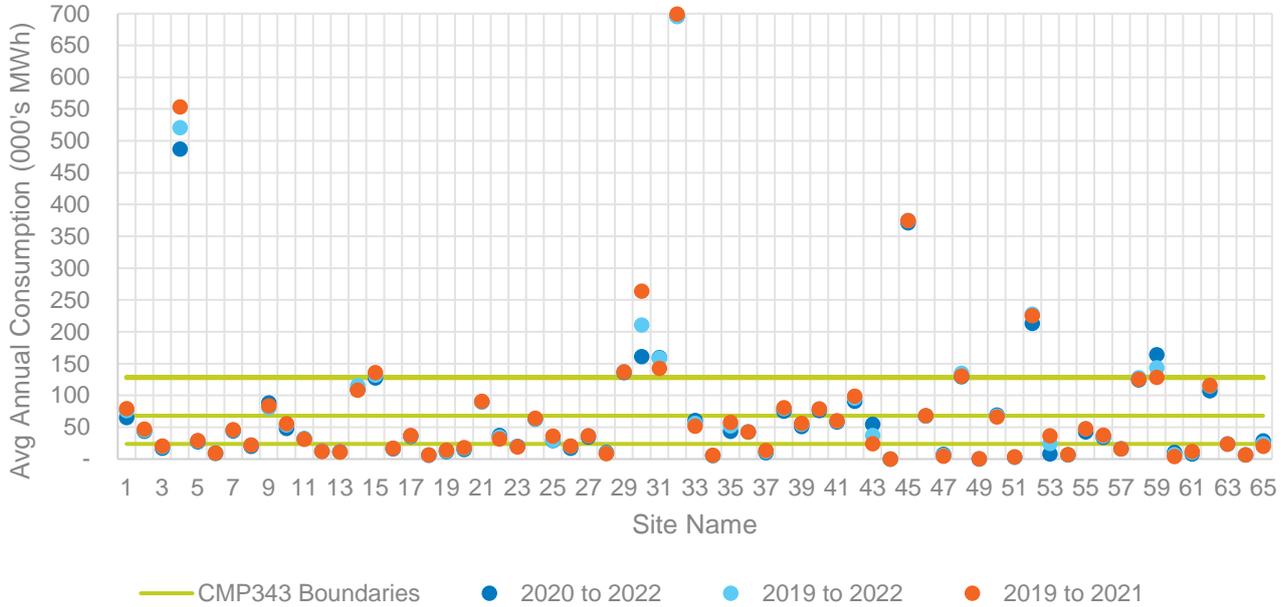


Figure 1 - Consumption by Site

Plotting this data by site rank (i.e. smallest consumption each year is ranked 1 whilst the largest is ranked 65) rather than by name (as per Figure 2) shows more clearly the pattern of consumption of sites at transmission.

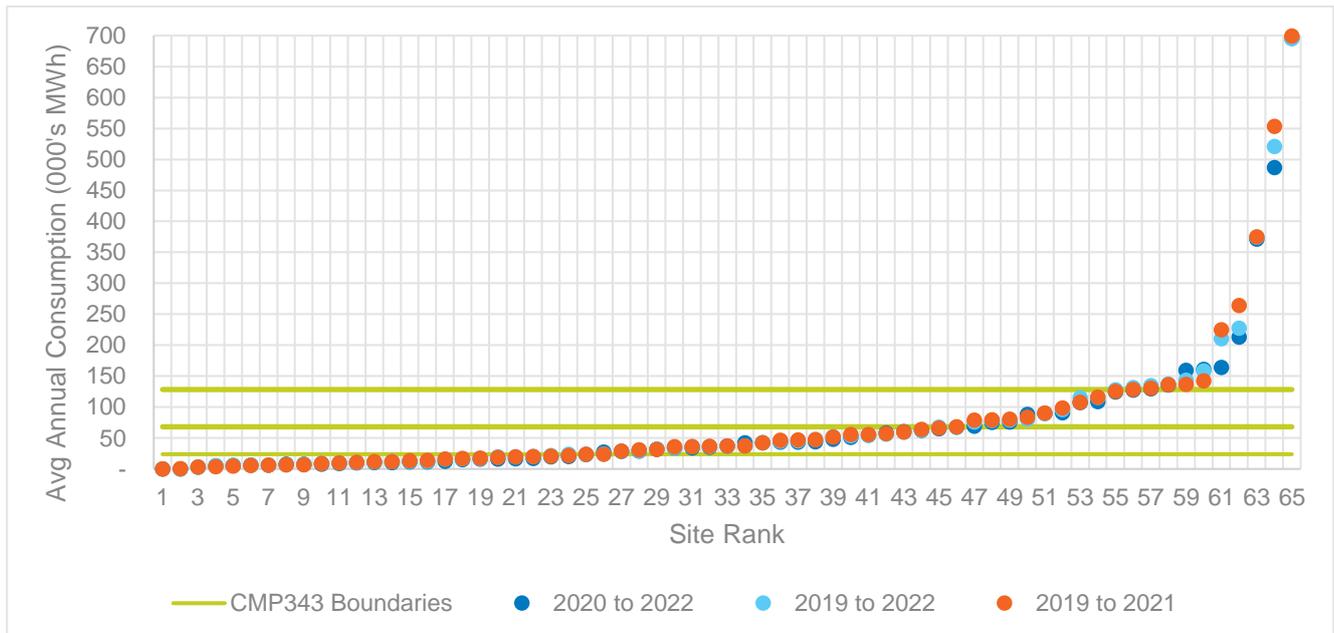


Figure 2 – Consumption ranked from smallest to largest

<sup>3</sup> Please note that at time of writing, data for the 2021/22 financial year is not yet fully available and so is based on data from 09/02/2021 to 08/02/2022 not 01/04/2021 to 31/03/2022.

Figure 3 shows the same information as Figure 2 but focussed on ranks that consume less than 200,000MWh.

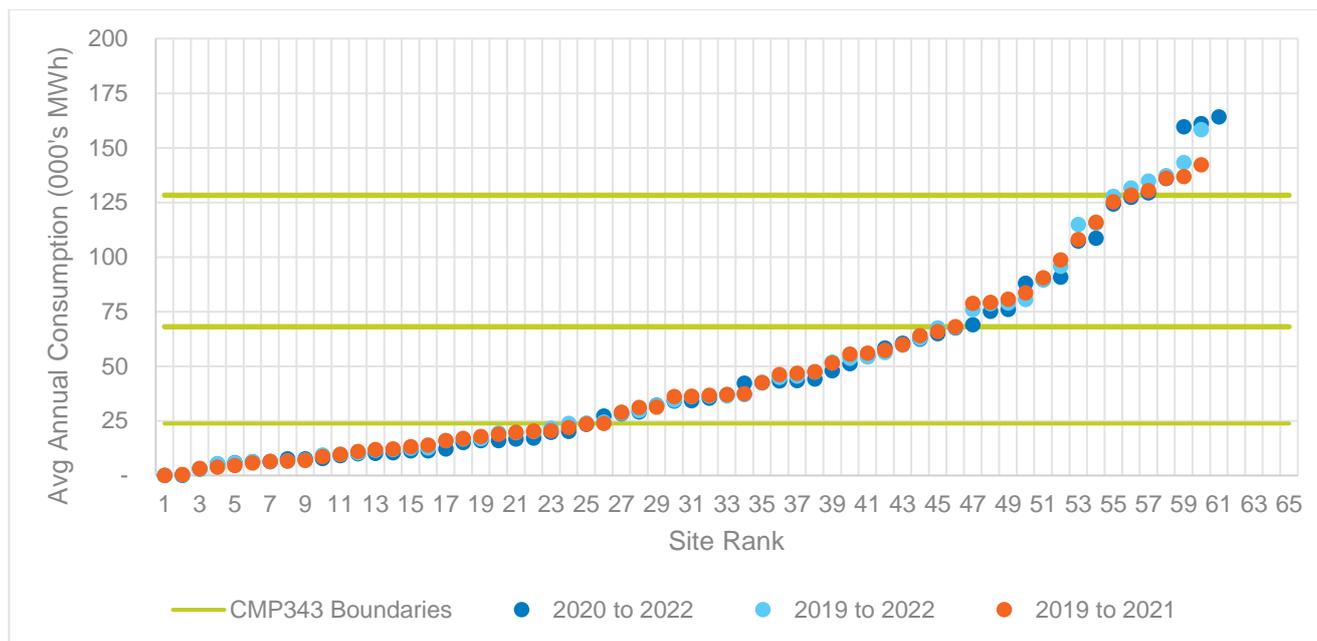


Figure 3 - Consumption ranked from smallest to largest (capped at 200k MWh)

This pattern shows there is a smooth curve of consumption, with no natural breaks in consumption between ranks) up until the largest 5 ranks where the curve spikes (i.e. ranks 61 to 65 which all consume over 200,000 MWh). Also, variability between years within a rank is typically lower than variability between years within a site as per the table below.

		2019-21 vs 2020-22	2019-21 vs 2019-22	2020-22 vs 2019-22
<b>Min Change</b>	Rank	-97%	-33%	-13%
	Site	-100%	-33%	-33%
<b>Max Change</b>	Rank	+40%	+42%	+1912% <sup>4</sup>
	Site	+174%	+87%	+218%
<b>Average Change</b>	Rank	-4%	0%	34%
	Site	-1%	+1%	+6%

At the 85<sup>th</sup> percentile (as per CMP343) the threshold was set at 128,292MWh as shown by the top green line in Figures 2 & 3. This means there is a risk that sites in the 56<sup>th</sup> to 60<sup>th</sup> ranks could be treated significantly different from very similar sites located in the 50<sup>th</sup> to 55<sup>th</sup> ranks. As a result, this proposal looks to revise the threshold for the final band boundary from the 85<sup>th</sup> percentile to the 93<sup>rd</sup> percentile and an associated consumption value of 185,270MWh as shown in brown in the diagram below.

<sup>4</sup> Consumption changed from ~12MWh to ~240MWh. The 2<sup>nd</sup> largest change was +34%.

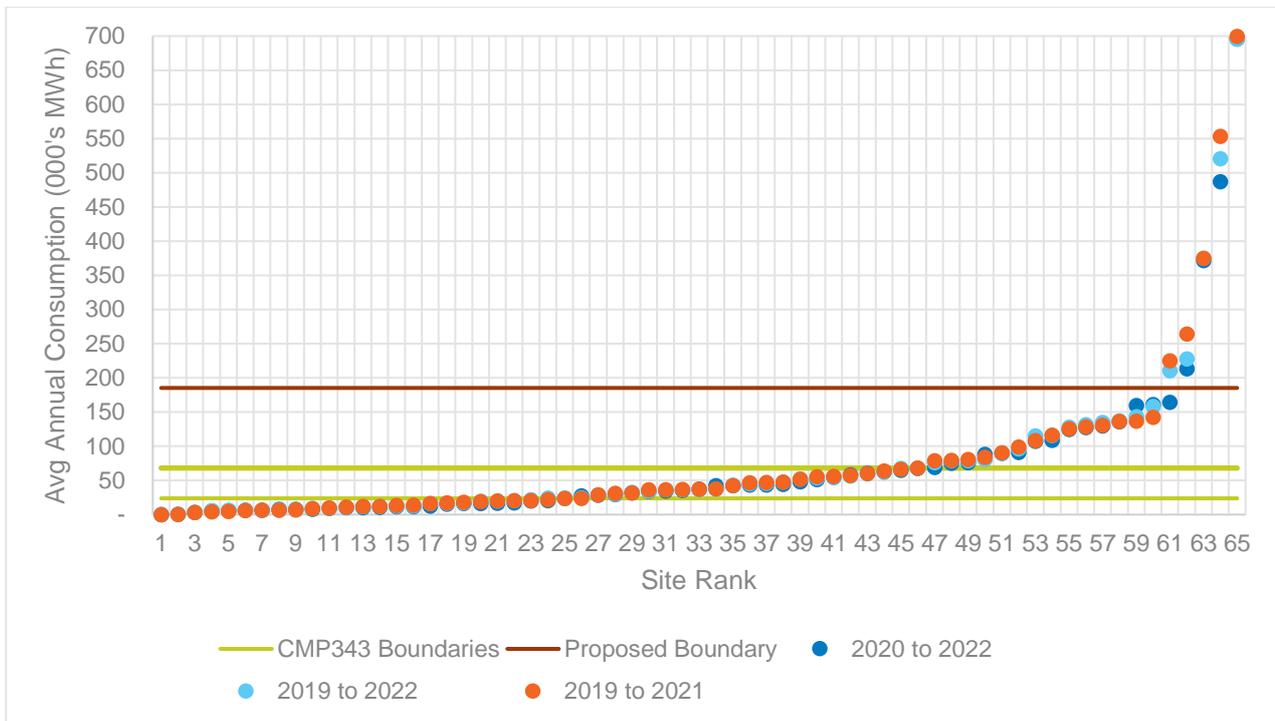


Figure 4 - Consumption ranked from smallest to largest (as per Figure 2) with the proposed band boundary change

For clarity, this proposal is not looking to change the thresholds between band 1 and 2 (40<sup>th</sup> percentile at 23,800MWh) or band 2 and 3 (70<sup>th</sup> percentile at 68,099MWh) and these are still shown in green in Figure 4.

As this proposal will affect allocation of sites to individual bands as well as the consumption of each of these bands (and therefore the total value of the TDR to be recovered from that band) it will also affect the tariffs for bands 3 and 4; bands 1 and 2 (and the sites contained within) are unaffected. The tables below show a comparison of annual tariffs (2022/23 as forecast in March 2021) between the approved CMP343 band boundaries and the proposed CMP389 band boundaries as well as a summary of how this affects site counts and consumption per band.

	Percentile		Threshold (MWh)		Sites		Consumption		Annual Tariff	Total Revenue
	Lower	Upper	Lower	Upper	Count	%	MWh	%	(£)	(Annual Tariff x Site Count)
<b>CMP343 approved boundaries</b>	-	40	-	23,800	26	40.0%	317,362	6.8%	£ 108,474	£ 2,820,326
	40	70	23,800	68,099	20	30.8%	873,668	18.8%	£ 388,205	£ 7,764,091
	70	85	68,099	128,292	10	15.4%	953,325	20.5%	£ 847,198	£ 8,471,983
	85	100	128,292	699,373	9	13.8%	2,512,664	54.0%	£ 2,481,052	£ 22,329,467
	<b>Total</b>				<b>65</b>	<b>100.0%</b>	<b>4,657,020</b>	<b>100.0%</b>		<b>£41,385,866.80</b>

	Percentile		Threshold (MWh)		Sites		Consumption		Annual Tariff	Total Revenue
	Lower	Upper	Lower	Upper	Count	%	MWh	%	(£)	(Annual Tariff x Site Count)
<b>Proposed boundaries</b>	-	40	-	23,800	26	40.0%	317,362	6.8%	£ 108,474	£ 2,820,326
	40	70	23,800	68,099	20	30.8%	873,668	18.8%	£ 388,205	£ 7,764,091
	70	93	68,099	185,270	14	21.5%	1,656,496	35.6%	£ 1,051,493	£ 14,720,896
	93	100	185,270	699,373	5	7.7%	1,809,494	38.9%	£ 3,216,111	£ 16,080,553
	<b>Total</b>				<b>65</b>	<b>100.0%</b>	<b>4,657,020</b>	<b>100.0%</b>		<b>£41,385,866.80</b>

The table below shows a summary of how these different annual tariffs will affect individual sites.

Annual impact on sites		CMP343 Banding	
		Band 3	Band 4
CMP389 Banding	Band 3	+£204,294 (+24%)	-£1,429,559 (-58%)
	Band 4	N/A	+£735,059 (+30%)

In summary, sites which remain in band 3 or band 4 for under both the CMP343 boundaries and the proposed CMP389 boundaries will pay 24% and 30% more TDR charges respectively. The 4 sites which move from band 4 (under CMP343) to band 3 (under the proposed CMP389 solution) will see a reduction in their TDR charges by 58%.

### Why the 93<sup>rd</sup> percentile?

In choosing the 93<sup>rd</sup> percentile as the solution for this proposal, each percentile (above 85<sup>th</sup>) for the band 3-4 boundary was calculated to determine the impact and this is shown below in Figure 5.

Percentile	MWh Consumption	Band 3 Site Count	Band 4 Site Count	Band 3 Annual Tariff	Band 4 Annual Tariff
85	128,291.51	10	9	£847,198.32	£2,481,051.86
86	128,775.38	10	9	£847,198.32	£2,481,051.86
87	129,717.38	10	9	£847,198.32	£2,481,051.86
88	132,178.12	11	8	£969,730.98	£2,516,801.14
89	135,757.60	11	8	£969,730.98	£2,516,801.14
90	136,432.81	12	7	£987,812.56	£2,706,814.16
91	138,033.86	13	6	£999,884.82	£2,967,157.86
92	141,500.69	13	6	£999,884.82	£2,967,157.86
93	185,269.98	14	5	£1,051,492.60	£3,216,110.69
94	231,291.54	15	4	£1,111,042.65	£3,533,952.55
95	256,168.18	15	4	£1,111,042.65	£3,533,952.55
96	312,740.80	16	3	£1,246,366.53	£3,619,861.78
97	389,113.84	17	2	£1,443,901.70	£3,127,560.49
98	503,238.98	17	2	£1,443,901.70	£3,127,560.49

Figure 5 - Table showing summary of percentile analysis

Percentiles below the 85<sup>th</sup> were not considered in the analysis shown in Figure 5 due there being no clear breaks in the data below this value, shown in Figure 3. As can be seen in Figures 2 and 4, there is a natural break in the data between the 60<sup>th</sup> and 61<sup>st</sup> site ranks at ~200,000MWh. Combining this with the analysis summarised in Figure 5 highlights that the 93<sup>rd</sup> percentile is the band boundary consumption value, which is closest to 200,000MWh.

Other natural breaks in the data occur at the 96<sup>th</sup> percentile (~325,000MWh between the 62<sup>nd</sup> and 63<sup>rd</sup> ranked sites) and 97<sup>th</sup> percentile (~400,000MWh between the 63<sup>rd</sup> and 64<sup>th</sup> ranked sites). These percentiles were not chosen as it would result in a very small number of sites in band 4 which would lead to volatile tariffs (for sites in this band) and a higher risk of this band 4 being needed to be merged with band 3 due to maintaining commercial confidentiality should one or two sites disconnect from the transmission system. For these reasons, the 93<sup>rd</sup> percentile was chosen as the solution to progress for CMP389.