

Code Administrator Consultation

CMP363 / CMP364: 'TNUoS Demand Residual charges for transmission connected sites with a mix of Final and non-Final Demand & Definition changes for CMP363'

Overview:

CMP363 seeks to clarify the TNUoS Demand Residual charging arrangements for transmission connected sites that have a mix of Final and non-Final Demand. **CMP364** is to support CMP363 by changing Section 11 to add/amend/remove definitions as needed.

Modification process & timetable

1	Proposal Form 10 December 2020
2	Workgroup Consultation 10 May 2021 - 01 June 2021 (5pm)
3	Workgroup Report 03 August 2022
4	Code Administrator Consultation 15 August 2022 – 13 September 2022
5	Draft Modification Report 22 September 2022
6	Final Modification Report 12 October 2022
7	Implementation 01 April 2023

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

Have 20 minutes? Read the full [Code Administrator Consultation](#)

Have 30 minutes? Read the full Code Administrator Consultation and Annexes.

Status summary: The Workgroup have finalised the proposer's solution as well as 1 alternative solution. We are now consulting on the proposed change.

This modification is expected to have a:

Medium impact: Transmission connected sites with a mixture of Final and non-Final Demand, the ESO, ELEXON

Governance route Standard Governance with a Workgroup

Who can I talk to about the change?

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How do I respond?

Send your response proforma to cusc.team@nationalgrideso.com by **5pm on 13 September 2022**

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Executive summary

CMP363/364 seeks to clarify the TNUoS Demand Residual charging arrangements for transmission connected sites that have a mix of Final and non-Final Demand (“Mixed Demand”).

What is the issue?

As part of [Ofgem’s TCR decision](#), they directed that network demand residual charges should be charged to sites with Final Demand and so [CMP334](#) was raised to define what a ‘Final Demand Site’ should be.

This definition would then be applied to the TNUoS methodology that was created under [CMP343/340](#). However, Ofgem in their [decision on CMP334](#) stated that sites that have a mix of Final and non-Final Demand had not been adequately covered (hence the raising of CMP363/364).

As part of the same decision, Ofgem noted that in the definition of ‘Final Demand Site’, “All Users” should be replaced with “For Users” for consistency.

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

Proposer’s solution:

Section 14 Changes - Clarify the Charging arrangements for “complicated” transmission connected sites (covered by CMP363)

Charging methodology explicitly states that if there is ‘mixed demand’ (combination of Final and non-Final Demand), it will be treated as Final Demand.	A Single Site with mixed demand will have the TNUoS Demand Residual methodology applied based on the sum of its Final and mixed demand. i.e. Non-Final Demand will not be included if it is separately identifiable via Settlement Metering.	The charge is applied on a Single Site basis irrespective of the number of connection points that site may have to the transmission network or other networks. The methodology will be applied based on the sum of all connection points to the transmission network.	Transmission connected unlicensed networks will have no special treatment in the TNUoS methodology and so will be treated as transmission connected.	Definition of “Declarations” moved from CUSC Section 11 to Section 14 and additional text added re: validating the Declaration
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Section 11 Changes (covered by CMP364)

In the definition of 'Final Demand Site', replace "All Users" with "For Users" in accordance with Ofgem's decision on CMP334.	Moved the definition of "Declarations" to CUSC Section 14
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This modification is only targeting Transmission connected sites and DCUSA arrangements will apply for distribution connected sites.

Implementation date:

The earlier of the Implementation Date for:

[CMP343](#) (which introduces 4 Transmission Bands to charge the Transmission Demand Residual to transmission connected sites from 1 April 2023); or

[CMP308](#) (which proposes to remove the liability to pay Balancing Services Use of System (BSUoS)) charges from GB Generators. The Implementation Date for [CMP308](#) is relevant given the intent to use the Declarations process for both TNUoS and BSUoS.

The Implementation Date for both of these Modifications is 1 April 2023.

Summary of potential alternative solution(s) and implementation date(s):

- Workgroup proposed one alternative solution based on the Original proposing to use "Settlement Metering" only:

Alternative Solution	Details	Implementation Date
WACM1	As per Original but using Settlement Metering as the default with Operational Metering as a fallback where Settlement Metering isn't practical or economical.	1 April 2023

What is the impact if this change is made?

This would clarify the arrangements for and provide an opportunity for sites with Mixed Demand to separate their Final and Non-Final Demand. This would potentially allow such sites to reduce their Transmission Demand Residual TNUoS charge, should their Final Demand consumption be reduced to a level allowing the Site to be placed in a lower Transmission Band. [CMP343/CMP340](#) introduces 4 Transmission Bands to charge the Transmission Demand Residual to transmission connected sites from 1 April 2023.

Metering will be required to separate their Final and Non-Final Demand, and the cost of Metering required will be weighed up by such "complicated sites" to determine if viable. More detail can be found in the "Workgroup assessment of Impacts" section of this document.

Interactions

This modification has no interactions with EBR Article 18 Terms and Conditions.

This modification has interactions with the following industry changes:

CUSC	DCUSA	BSC
CMP343 (which introduces 4 Transmission Bands to charge the Transmission Demand Residual to transmission connected sites from 1 April 2023)	DCP 388 , which is the DCUSA equivalent Modification to CMP363/364	P419 , which seeks to enable BSC systems to aggregate the Import data of all non-Final Demand sites for exclusion from BSUoS charges
CMP308 (which is relevant given the intent to use the Declarations process for both TNUoS and BSUoS)		P395 , which seeks to introduce new and amended processes so that the Balancing Mechanism Unit Gross Demand Report to the EMR Settlement limited (EMRS) only includes electricity 'supplied' to premises by Suppliers. The report will exclude electricity imported by Generators or Battery Storage facilities operated by a licensee for generation activities.
CMP389 ¹ (which seeks to implement changes related to Transmission Band boundaries as stated in paragraph 3.12 of Ofgem's decision on CMP343).		

¹ CMP389 proposes to revise the boundary between Transmission Band 3 and 4 so doesn't impact the solution for CMP363/CMP364

What is the issue?

As part of [Ofgem's TCR decision](#), they directed that network demand residual charges should be charged to sites with Final Demand and so [CMP334](#) was raised to define what a 'Final Demand Site' should be.

This definition would then be applied to the TNUoS methodology that was created under [CMP343/CMP340](#). However, Ofgem in their [decision on CMP334](#) stated that sites that have a mix of Final and non-Final Demand had not been adequately covered (hence the raising of CMP363/364) and as part of that decision Ofgem specifically stated the following:

"Obligation to address private wire and complex sites

As noted in our assessment on [Applicable CUSC Objective] ACO (a) we believe that the obligation of the TCR Direction to address private wire and complex sites has not been discharged.

We expect the new modification to be developed in a way that allows implementation by April 2022. This will provide the Workgroup the opportunity to establish a comprehensive approach to treating private wires and complex sites, as it will allow for different potential scenarios and potential consequences to be explored in detail. We note that there may be a need for further changes to other industry codes as a result of this modification. For clarity, we expect that any proposal brought forward will ensure that:

- *sites that would not be subject to the TDR under CMP334 WACM1 would be not be subject to the TDR if they exist in a private wire/complex site; and*
- *any site in a private wire/complex site that has associated final demand would be liable for the TDR in a proportionate way."*

The term "complex site" in the context of the TCR relates to sites that have a mix of Final and Non-Final Demand and 'Private Wires' is in reference to licence exempt networks operating in accordance with [The Electricity \(Class Exemptions from the Requirement for a Licence\) Order 2001](#). Both are colloquial terms used in the industry and so have no formally recognised meaning – and neither are recognised by CUSC. The Workgroup agreed to use the term "complicated sites" to avoid confusion for wider industry. The arrangements for TNUoS Demand Residual charges for such Transmission connected complicated sites needs to be clarified which CMP363/364 seeks to address.

As part of their [decision on CMP334](#), Ofgem also noted that in the definition of 'Final Demand Site', "All Users" should be replaced with "For Users" for consistency.

Why change?

This change will both ensure that:

- Calculation of TNUoS Demand Residual charges are transparent for Sites which are 'complicated'; and
- The ESO is fully compliant with Ofgem's TCR direction.

What is the solution?

Proposer’s solution

Section 14 Changes - Clarify the Charging arrangements for “complicated” transmission connected sites (covered by CMP363)

Charging methodology explicitly states that if there is ‘mixed demand’ (combination of Final and non-Final Demand), it will be treated as Final Demand.	A Single Site with mixed demand will have the TNUoS Demand Residual methodology applied based on the sum of its Final and mixed demand. i.e. Non-Final Demand will not be included if it is separately identifiable via Settlement Metering.	The charge is applied on a Single Site basis irrespective of the number of connection points that site may have to the transmission network or other networks. The methodology will be applied based on the sum of all connection points to the transmission network.	Transmission connected unlicensed networks will have no special treatment in the TNUoS methodology and so will be treated as transmission connected.	Definition of “Declarations” moved from CUSC Section 11 to Section 14 and additional text added re: validating the Declaration
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Section 11 Changes (covered by CMP364)

In the definition of ‘Final Demand Site’, replace “All Users” with “For Users” in accordance with Ofgem’s decision on CMP334 .	Moved the definition of “Declarations” to CUSC Section 14
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Not in Scope

CMP363/364 does not look to review what a ‘Site’ or ‘Final Demand’ is or how the TNUoS Demand Residual charge is calculated, but how they’re applied in the Mixed Demand scenarios considered by the Workgroup.

CMP363/364 only applies to Transmission connected sites. However, there is an equivalent DCUSA Modification [DCP 388](#) (further details below).

Some Workgroup members noted that there are some “Sites” that have Transmission and Distribution Demand and they will be charged for both TNUoS (based on consumption) and DUoS (based on capacity). However, this is not within the scope of this change.

The Proposer noted that the principles of this Modification could be mirrored over to BSUoS. However, this is not in scope of this change and one Workgroup Member additionally urged caution on trying to factor in this solution a future TNUoS/BSUoS solution given the complexity this could introduce.

A respondent to the Workgroup Consultation noted that there may be need to standardise and harmonise metering requirements and data flows once other significant industry changes are more clearly defined (e.g. Market Wide Half Hourly Settlement and other Significant Code Reviews). In their view, [P419](#), which seeks to enable BSUoS reform, is a starting point for this but is very focussed/limited compared to a broader review. As such the need to harmonise arrangements still exists and so does the need to find a vehicle for harmonisation. A Workgroup Member also noted that [P395](#) has been raised to seek to introduce new and amended processes so that the Balancing Mechanism Unit Gross Demand Report to the EMR Settlement limited (EMRS) only includes electricity ‘supplied’ to premises by Suppliers. The report will exclude electricity imported by Generators or Battery Storage facilities operated by a licensee for generation activities. This Modification also deals with complicated sites as per CMP363/364 although there is no imminent solution.

Workgroup considerations

The Workgroup convened 3 times before the Workgroup Consultation and 5 times after the Workgroup Consultation to discuss the perceived issue, detail the scope of the proposed defect, devise potential solutions and assess the proposal in terms of the Applicable Code Objectives.

The Workgroup held their Workgroup Consultation between 10 May 2021 and 1 June 2021 and received 7 non-confidential responses and 1 confidential response. A summary of the 7 non-confidential responses and the full non-confidential responses can be found Annexes 7 and 8 respectively. In summary:

- Majority of respondents were supportive of the proposed changes and were overall content that the Workgroup have explored the right scenarios whilst noting that Sites could have a combination of these scenarios – one respondent thought it useful to show the impact of behind-the-boundary generation on final and non-final demand and the scenarios document has been updated accordingly and the same respondent also queried how on-site generation/storage output should be accounted for when assessing a site’s demand residual liability;
- Mix of views as to whether to use the more “accurate” Settlement Metering vs Operational Metering. This is discussed further in the section on “Consideration of the Proposer’s Solution: Settlement Metering or Operational Metering”;
- Concern that it would be impractical to implement a consistent solution for transmission-connected and distribution-connected Final Demand Sites as data at Distribution level is incomplete and there is no practical way of splitting the Maximum Import Capacity across Meter Point Administration Numbers, which opens up opportunities for gaming. This is discussed further in the section on “Consideration of the Proposer’s Solution: “Transmission vs Distribution arrangements””; and

- There are no Grid Code and BSC changes expected. This is discussed further in the section on “Consideration of the Proposer’s Solution: Clarify the arrangements for “complicated sites”.

Consideration of the Proposer’s solution

1) Transmission vs Distribution arrangements

CMP363/364 is only targeting Transmission connected sites and DCUSA arrangements will apply for distribution connected sites. However, there is an equivalent DCUSA Modification [DCP 388](#) to define mixed sites and the Workgroup agreed that it is important we are close to this to ensure a consistent approach across transmission and distribution. The Proposer of [DCP 388](#) is a CMP363/364 Workgroup Member and therefore this will help ensure consistency across transmission and distribution.

The Workgroup noted the Ofgem directed requirement to ensure consistency between the CUSC and DCUSA, where appropriate. However, a Workgroup Member argued it is impractical to implement a consistent solution between transmission-connected and distribution-connected Mixed Demand Sites. At distribution level, many sites are assessed for their residual band based on their Maximum Import Capacity (MIC). However, MIC data is often incomplete and there is not always a practical way of splitting the MIC between multiple demand users at a site, which opens up opportunities for gaming at Distribution Level as there isn’t a way to verify if the data they are providing and therefore being billed against is correct. This was flagged to the Ofgem representative on the Workgroup and they noted the CMP363/CMP364 Workgroup’s view that the Transmission and Distribution solutions being developed may turn out to not be consistent with each other.

This respondent also noted that the Original solution would be appropriate at a Transmission level as:

- There is a low number of affected sites (~ 70 with the ESO Workgroup Member estimating that only 6-12 Sites may take up the opportunity proposed by CMP363/364. In comparison there are ~ 2.5 million Distribution Sites;
- CMP363/364 uses consumption data rather than Maximum Import Capacity; and
- Parties are making Declarations that they have no Final Demand or Mixed Demand.

2) Clarify the arrangements for “complicated sites”

The Workgroup initially identified 8 transmission connected scenarios to test the Proposer’s solution against. These scenarios are summarised in the table below and set out in Annex 4 together with assumptions and notes to help the reader understand what each scenario is showing.

Scenario Reference	What the scenario is covering
1	Single Site with combination of Final and non-Final Demand in parallel – A Mixed Demand Site with a single connection to the NETS
2	Single Site with combination of Final and non-Final Demand (in parallel) and multiple connection points – A Mixed Demand Site with multiple connection points to the NETS.
3	Single Sites interconnected independently of a licenced network – 2 sites (that are both NETS connected) which also have a connection between them (i.e. parallels the NETS)
4	Unlicensed networks (1 large site or multiple small sites) – A ‘network’ that is NETS connected and also doesn’t have a distribution licence (so is not a DNO or iDNO)
5	Multi-network connection – A site that has a connection to both the NETS and a distribution system.
6	Final Demand with additional ‘nested’ demand – A NETS connected Final Demand site that is then expanded
7	Non-Final Demand with additional ‘nested’ demand – A NETS connected Non-Final Demand site that is then expanded
8	‘Flow through’ site – A site with 2 connections to the NETS, where power flows from one connection point to the other.

Annex 4 shows some of the scenarios which makes a site ‘complicated’ and the concept of isolating Final Demand from Non-Final Demand; however, the Workgroup were keen to emphasise that this is a non-exhaustive list of scenarios but the key ones the Workgroup identified.

Annex 5 builds upon these scenarios (shown in Annex 4) to show more typical sites and how the calculation of Gross Final Demand Consumption would be undertaken for each of these examples. Annex 5 shows a number of examples, which includes Sites which had not only Mixed Demand but also onsite Generation/Storage, and a summary of how each of these example sites would be banded.

The examples contained within Annex 5 are:

Example Number	Example Description
1	Gross Consumption vs Gross Final Consumption vs Net Consumption - This shows the difference between 'Gross Consumption', 'Gross Final Demand Consumption' and 'Net Consumption' for a Mixed Demand Site. Under the current CMP343 solution, Gross Consumption would be used in the methodology and the CMP363/364 proposal looks to revise this to Gross Final Consumption.
2, 2a ,2b	Generator with a small amount of Consumption. Example Number 2 shows the overall view and then 2 sub-examples are shown; <ul style="list-style-type: none"> a. Using direct metering (Example 2a) b. Using difference metering (Example 2b)
3, 3a ,3b	Generator with equal Consumption. Example Number 3 shows the overall view and then 2 sub-examples are shown; <ul style="list-style-type: none"> a. Using direct metering (Example 3a) b. Using difference metering (Example 3b)
4, 4a ,4b	Consumption site with small amount of on-site generation. Example Number 4 shows the overall view and then 2 sub-examples are shown; <ul style="list-style-type: none"> c. Using direct metering (Example 4a) a. Using difference metering (Example 4b)
5	Consumption only site
6	Generation only site
7, 7a and 7b	Gross Final Demand Consumption, utilising onsite generation – two alternative metering configurations

Principles that apply to these Sites

The Proposer noted that each of these scenarios show a unique situation; however, these scenarios can be combined together to reflect the need of a particular Site if needed.

They added that these scenarios relate only to those connections that have a direct relationship with the ESO (i.e. Transmission Connected sites with BCAs) and that Sites connected to the Distribution network (including sites contracted with the ESO with a BEGA) will follow the approach in DCUSA (which is being explored through [DCP 388](#)). The Proposer noted that the ESO is currently aware of up to 70 transmission sites which would be affected by CMP363/364. However, they estimate that only 6-12 Sites may take up the opportunity proposed by CMP363/364 and their reasonable expectation is that a "Site" would only declare they have "Mixed Demand" if by doing so would move the site to a lower transmission band (note that [CMP343](#) introduces 4 transmission bands from 1 April 2023).

The Workgroup reviewed each of the identified scenarios to see if the proposed solution would identify mixed demand and identify any BSC or Grid Code implications to consider. The Chair of the Workgroup approached the Grid Code Review Panel to confirm the Workgroup's assumption that there were no Grid Code requirements that would prohibit these arrangements. The only exception identified "*might be where data from either set of meters is used in ways/by parties not specified in the original contractual arrangements*". The Workgroup considered this and could not identify a feasible risk of this occurring.

The Proposer noted that this change looks to establish the concept of using metering to separately identify Final Demand and Non-Final Demand volumes within a Site and feed

this data to the ESO so that only Final Demand volume is used in the TNUoS charging methodologies. The specific methods of how this is done will vary by site. However, the Workgroup agreed to several principles:

- If a Site is connected to the National Electricity Transmission System (NETS) and they have Final Demand, they will be liable to pay the Transmission Demand Residual charge.
- Any volumes that aren't declared to be Non-Final Demand will be treated as Final Demand.
- Use of the boundary meter as part of the calculation is encouraged and considered best practice (i.e. boundary meter volumes minus other meters) but isn't mandated.
- Difference/net metering (where two or more meters are used to quantify a volume of consumption that is not directly associated with any individual meter) can be used to identify Final Demand volumes by metering Non-Final Demand volumes and vice versa. This is discussed further in the "Difference Metering" section below.
- It is the prerogative of the Site to determine its metering configuration; and
- For the purpose of Transmission Demand Residual banding, Demand (Final, Mixed and Non-Final) should be assessed gross of onsite generation outputs. This was considered to be in line with the policy intent of [Ofgem's TCR decision](#). This also should also apply to Final Demand which is located behind and fully supplied by onsite generation. The Workgroup noted that a Site connected to the NETS (regardless if the Final Demand is located behind the Generator) will have an ability to import / take Final Demand from the NETS and so therefore would be liable for the Transmission Demand Residual albeit they would likely be placed in the lowest Transmission Band.
- A Site's gross Final Demand Consumption can either be:
 - measured using meters installed at each Final Demand asset; or
 - calculated as the difference between the Mixed Demand Site's Gross Consumption (as metered at the Site boundary) and Consumption metered at each asset, which does not consume Final Demand.

The two approaches may yield different results in cases where some or all of a Site's Demand Consumption is met by onsite generation, as examples 7, 7a and 7b in Annex 5 show.

The Proposer confirmed that, from a Transmission perspective, the ESO do not recognise 'unlicensed networks' in the CUSC or TNUoS methodology and so this type of connection would be treated as either a licensed network connection (for DNOs/iDNOs and so captured under the DCUSA provisions) or a standard 'demand' connection if they didn't have a licence. In practice, the ESO would consider the whole unlicensed network as a single large/combined site and would apply TNUoS charges accordingly. The 'Site' could still use metering to isolate non-final demand and that would be factored into the TNUoS charges applied to the Site. However, the charges would be applied on a Site basis and not on an 'embedded site level'. It would be for the owner of the unlicensed network to determine if they wish to break this charge down further.

The Proposer added that all consumption on the NETS will be captured through a Balancing Mechanism Unit. This view was echoed by some Workgroup Members with no Workgroup Member disagreeing.

3) Settlement Metering or Operational Metering

The Workgroup noted that Metering would be required for each scenario and the CMP363/364 Original proposal is to use Settlement Metering (as per the BSC) rather than Operational Metering (as per the Grid Code); however, there were mixed views in both the responses to the Workgroup Consultation and the Workgroup as to whether Settlement Metering or Operational Metering was the most appropriate. Therefore, two requests for alternatives were raised accordingly, which were:

Request for Workgroup Alternative 1	As per Original but using Settlement Metering as the default with Operational Metering as a fallback where Settlement Metering isn't practical or economical. It would be the Site who would determine whether Settlement Metering isn't practical or economical and they would include justification in their Declaration. This became WACM1.
Request for Workgroup Alternative 2	As per Original but using Operational Metering as the default noting that a Settlement Meter would qualify as an Operational Meter. This was not taken forward.

The Workgroup debated these two proposed alternative solutions and questioned the need for the Request for Workgroup Alternative 2 as the Request for Workgroup Alternative 1 effectively allows Operational Metering to be installed. Therefore, at the Workgroup meeting on 12 August 2021, the Workgroup Member, who raised the Request for Workgroup Alternative 2, agreed not to take this forward. The Workgroup then voted as to whether or not the Request for Workgroup Alternative 1 should become a Workgroup Alternative CUSC Modification (WACM). The Workgroup unanimously agreed that the Request for Workgroup Alternative 1 should become a WACM and this is now known as WACM1.

The Workgroup identified the pros and cons of Settlement Metering and Operational Metering which is set out in the attached table:

	<u>Pros</u>	<u>Cons</u>
<u>Settlement Metering</u> ² (as per BSC Section K)	Provisions of the BSC are already flexible enough (through non-standard BMU registration and/or derogations granted by the BSC panel) to allow this to happen and the process is well understood by industry. Minimal new development cost.	The increased accuracy that Settlement Metering brings is not needed for this purpose and will mean more requests for BMU metering that need to be managed and additional complexity as you would need dispensations for behind the meter points, non-standard BMU configurations. This in turn would lead to higher operating costs for those needing Metering.

² A "Settlement Meter" is Metering system registered in Supplier Meter Registration Service (SMRS) or Central Meter Registration Service (CMRS)

	<p>Ensures accurate and robust data is used for charging and takes into account losses behind the Meter.</p> <p>Data is transparent to wider industry and the usage is auditable.</p>	<p>Additional obligations.</p> <p>Carries a number of separate impacts including public data visibility.</p>
<p><u>Operational Metering (as defined in Grid Code CC.6.5.6)</u></p>	<p>More Cost Effective for parties, who can potentially use existing metering. Operational metering should be sufficient to allow the determination of which band to allocate the site with the boundary metering used to determine the site costs - don't need something that has to comply with BSC Metering Codes of Practice.</p> <p>Likely that only sites with significant non-final demand (e.g. more than 10% of the boundary point demand is demand) and/or those close to lower point of a transmission band will see any benefit to declaring so Operational Metering will be sufficient.</p> <p>The Grid Code and the Transmission Site's BCA has defined requirements for operational metering so can use these as the basis of a 'standard'.</p> <p>As long as the requirements of the Grid Code continue to be met by the site (which they should be given this is likely to result in additional metering), then using this metering for an additional purpose does not create any regulatory concerns.</p>	<p>Development cost – ESO would need to undertake system and process changes. Processes for modifying Operational Metering are slow and cumbersome in comparison to using Settlement Metering. Specifically:</p> <ul style="list-style-type: none"> • Additional manual work to configure control room systems to receive data for purposes not needed by the ESO for system operation • New manual processes to retrieve data from existing systems and process this data for use. Given the expected frequency that this data will be required, we do not believe it is feasible to modify control room systems or billing systems to automate this solution. <p>Complexity in getting data (whether that be directly to the ESO or collected by ELEXON and passed to the ESO) as the Transmission Owners own the Supervisory Control and Data Acquisition (SCADA) system, which is used to monitor and control a plant or equipment. If Operational Metering was used, there would be new requests to change SCADA systems (and associated contract changes).</p> <p>Wouldn't take into account losses behind the Meter.</p> <p>Operational Metering data could limit future opportunities for harmonisation and centralisation of industry data (and so future efficiency) compared to using Settlement Metering.</p>

		Potential implications if a non-settlement meter precedent were to extend to distribution given significant increase in volumes of meters.
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Settlement Metering versus Operational Metering – Qualitative cost comparison

When comparing the two metering types, some Workgroup members wanted to compare the additional costs that either metering type would incur.

The qualitative analysis, set out in the table below, shows that settlement metering, where not already installed, would lead to higher metering hardware and operating costs for a site than operational metering. On the other hand, operational metering, if used for the purpose of residual banding, would lead to higher costs related to IT system and process changes, falling on both the ESO and the TOs.

Several Workgroup members considered that a meaningful quantitative cost comparison was not possible as these costs would be highly site specific but that affected parties could respond confidentially to Ofgem with actual costs if they so wish.

	Settlement Metering	Operational Metering
Hardware	<ul style="list-style-type: none"> • Need to appoint a CVA Meter Operator; and • Be required to pay an annual charge (for management and maintenance) and pay for assurance (audits) to ensure that the Settlement Metering meets code of practice standards. 	<ul style="list-style-type: none"> • More Cost Effective for parties, who can potentially use existing metering.
Other Costs	<p><i>Operating costs</i></p> <ul style="list-style-type: none"> • The increased accuracy that Settlement Metering brings is not needed for this purpose and will mean more requests for BMU metering needing to be managed. • Metering Dispensations and (potentially) non-standard BMU configurations may be needed, leading to additional complexity. • Non-standard BMU configurations if the site configuration does not meet the Standard BMU configuration. • This in turn would lead to higher operating costs for those needing metering, and an increase in approvals from Elexon sub-committees (namely the Imbalance Settlement Group). • BSC charges per BMU ID would be incurred by the registrant/BSC 	<p><i>Development costs</i></p> <ul style="list-style-type: none"> • ESO would need to undertake system and process changes. Processes for modifying Operational Metering are slow and cumbersome in comparison to using settlement metering. Specifically: <ul style="list-style-type: none"> • Additional manual work to configure control room systems to receive data for purposes not needed by the ESO for system operation • New manual processes to retrieve data from existing systems and process this data for use. Given the expected frequency that this data will be required, The

	party (CVA Metering System & CVA BMU Monthly Charges).	<p>Proposer does not believe it is feasible to modify control room systems or billing systems to automate this solution</p> <ul style="list-style-type: none"> • Complexity in getting data (whether that be directly to the ESO or collected by ELEXON and passed to the ESO), as the Transmission Owners own the Supervisory Control and Data Acquisition (SCADA) system which is used to monitor and control a plant or equipment. If operational metering was used, there would be several new requests to change SCADA systems (and associated contract changes).
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Is there an alternative to Settlement or Operational Metering?

Settlement Metering provides Half Hourly (HH) data whilst Operational Metering (real time feed into SCADA system) would need additional software to get it to HH level. However, for the CMP363/364 change, HH data is not needed and the Proposer confirmed they simply need 12-24 months of consumption data (MWh at Site level) to allow Sites to be allocated into bands rather than what they are using day to day or month to month.

Given this, a Workgroup Member asked if a Private Meter would suffice and the User would then self-declare their consumption and provide an annual stream of data (which would most likely be provided by a data collector). The Proposer noted stated that Settlement and Operational Metering were the only realistic options and shared the following concerns with using Private Meters, which in summary relate to data verifiability and data sharing:

- ESO and wider industry would have no assurance/way of knowing how accurate/reliable that meter is; and
- Getting data from the Private Meter to ESO would be problematic as couldn't use current interfaces as used for Settlement Metering or Operational Metering. ESO would therefore have to create a new interface to accept this data, which in the view of the Proposer would be expensive and take a long to create for negligible benefit. Alternatively, it would have to be manually submitted, which opens up issues of gaming, manipulation or errors.

In conclusion, no Workgroup member wished to request an alternative on this basis.

Difference Metering

The Workgroup reviewed if difference metering (where two or more meters are used to quantify a volume of consumption that is not directly associated with any individual meter) would be suitable under the options proposed by CMP363/CMP364. The Proposer confirmed that the intention was to allow difference metering if it was a suitable arrangement for any particular Site. However, the declaration would need to clearly document how this calculation was performed. This was because any volumes which were mixed or unclear would be assumed to be Final Demand and this therefore places a commercial incentive on a site to correctly identify Final and non-Final Demand volumes whilst giving the Site the most flexibility in how this is achieved.

Where there is generation capability within the Site which supplies on-site demand, difference metering will need gross consumption, as opposed to net consumption at the boundary point, to serve as the base for the difference metering calculation. As an example, the Non Final Demand volumes would be subtracted from gross consumption (i.e. all Final and Non-Final demand consumption) to give Final Demand consumption.

Difference metering may allow users to use fewer meters to correctly calculate Final Demand volumes as, depending on the site layout, gross consumption may be a single meter, as opposed to the summation of all separate Final Demand consumption meters.

The Workgroup clarified that in order to use difference metering, at least two meters would be required (to calculate a third consumption quantity) and these meters should conform to the relevant standards required of that meter - i.e. settlement grade for boundary meters as well as settlement or operational specification (if WACM1 is approved) for meters within the Site. It was also noted that this detail would need to be clearly explained to industry via a guidance note that would accompany the declaration template.

The Workgroup also proposed that any difference metering arrangement would need to demonstrate that there was no possibility of double-counting of any volumes at the site which could result in over or understating final and non-final demand volumes. Furthermore, all metering arrangements would be subject to the specified assurance process.

4) Declarations

The Workgroup noted that there is a process whereby a User³ (as defined in CUSC) can demonstrate they do not meet the “Final Demand Site” definition. Under this process, it is for the User to self-declare that they are using demand for the sole purpose of storage or generation at the site in question. Any Transmission Site will be assumed to have Final Demand (and therefore be liable for the TNUoS Demand Residual Charges based on volumes at the boundary point) unless they choose to declare otherwise. Whilst, there is no requirement to submit such a declaration, if they don't do this they will be charged as if they are a “Final Demand Site”. If they are later proved to have submitted a false declaration, then that party would be in breach of CUSC.

³ The intention of the declaration is that this only applies to NETS connected Users (who will be CUSC signatories)

Definition of “Declaration”

The Proposer originally noted there was no requirement to change the current wording of “Declaration” but have moved the wording from CUSC Section 11 (Definitions) to Section 14 due to its detail and complexity being far greater than formally defining a “Declaration”.

Some Workgroup Members argued there was a need to clarify the obligation on Users to re-declare where there are changes and some Workgroup Members asked the ESO to consider if there is any formal audit process, as exists in BSC, to monitor the declaration e.g. technical assurance audits, site visits. The Proposer stated they are not looking to formally codify that they will do a certain amounts of site visits. However, they confirmed they would have their own process to do “spot checks” in line with the criteria⁴ set out in [CMP335/336⁵](#), which sets out how/when the Transmission Demand Residual is recovered from parties once the methodology for how the Transmission Demand Residual charges are calculated is determined. Some Workgroup Members proposed that the ESO consider codifying that the ESO have the capability to do “spot checks” in the CMP363/CMP364 legal text including a ‘hook’ to allow for subsequent audit/validation or evidence to emerge which brings the Declaration into challenge. Therefore, the legal text for both the CMP363/CMP364 Original and WACM1 will allow the ESO the right to audit and revalidate a previously approved Declaration. An inaccurate Declaration shall immediately be deemed to be invalid and allow the ESO to retroactively apply TNUoS Charges back to the Reconciliation Final run unless the Declaration was declared valid since then.

There was no Workgroup support for having time-limited declarations and noted that Declarations in other codes are not time limited.

Declarations Guidance

The Proposer is further enhancing the existing Declaration process and templates (created by [CMP319](#) and adapted by [CMP334](#)). The Proposer noted the need for simplicity and robustness and any declaration should include:

- Covering guidance note to state that:
 - A Transmission Site is not obliged to submit a declaration; however, they would be liable for the TNUoS Demand Residual charge if they didn’t submit such a declaration; and
 - Clarify that a false declaration would be a breach of CUSC, and they have a responsibility to keep the obligation up to date e.g. re-declare if there changes to Site usage that would impact on their Transmission Band.
- The name of the single “Site”;
- Tick boxes as to whether or not it will have a mix of final demand or be pure non-final demand;

⁴ The Final Modification Report for CMP335/336 states that “One key consideration, which is aligned across both transmission and distribution is that Parties would be only be able to dispute their banding where:

- 1) There has been a voltage level connection change.
- 2) After 12 months, consumption data is either $\pm 50\%$ than the figure used in the banding allocation.
- 3) There has been a notice of disconnection.”

⁵ CMP335 and CMP336 were [approved](#) on 10 March 2022 and will be implemented 1 April 2023

- Where there is Final Demand, a diagram showing the metering configuration (including metering identification) to capture, for complicated sites, the logic of how to isolate Non-Final Demand volumes from the rest of the site; and
- Signatures/sign off from their Company Directors in line with current CUSC processes.

Workgroup Members supported the Proposer's desire to harmonise (if possible) the BSUoS and TNUoS requirements in to a single declaration document although they noted there was a minor difference in scope between TNUoS and BSUoS for embedded Central Volume Allocation⁶ (CVA) sites and agreed that cleaner to use separate forms for the BSUoS and TNUoS declarations as this e.g. avoids the risk of one of the declarations being accepted and the other not being accepted.

5) Section 11 Changes (covered by CMP364)

Sections 2, 3 and 4 in this "Consideration of the Proposer's solution" part of this document relate to the solution(s) for CMP363. However, there are also some changes to CUSC Section 11, which are covered by CMP364. In summary:

- As well as the removal of the definition of "Declaration" from CUSC Section 11 to Section 14, a new definition of "Mixed Demand Sites" has been added to the Legal Text following feedback from a respondent to the Workgroup Consultation.
- In the definition of 'Final Demand Site', replace "All Users" with "For Users" in accordance with Ofgem's [decision on CMP334](#).
- Following Ofgem's [decision on CMP280](#), a unused definition ([that was implemented by CMP319](#)) of "Storage Tariff" will also be removed.

Legal Text

The legal text for this change can be found in Annex 6.

What is the impact of this change?

Proposer's assessment against Code Objectives

Proposer's assessment against CUSC Charging Objectives - CMP363

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 Provides clarity in the treatment of TNUoS charges in respect of more complicated sites to ensure

⁶ The process for determining how much electricity is used or generated in a settlement period by customers or generating plant that is directly connected to the electricity transmission system or is otherwise registered in CVA under the Balancing and Settlement Code (BSC)

	a level playing field across these types of site.
(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);	Neutral No impact expected
(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 NGESO 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 *; and	Neutral No impact expected
(e) Promoting efficiency in the implementation and administration of the system charging methodology.	Positive Provides clarity in the treatment of TNUoS charges in respect of more complicated sites to ensure a level playing field across these types of site.
*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 against CUSC Non-Charging Objectives – CMP364

Relevant Objective	Identified impact
(a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;	Positive NGESO has been directed to raise this modification and implement its effects by the Authority.
(b) Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;	Positive Provides clarity in the treatment of TNUoS charges in respect of more complicated sites to ensure a level playing field across these types of site.
(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	Neutral No impact expected
(d) Promoting efficiency in the implementation and administration of the CUSC arrangements.	Positive Provides clarity in the treatment

of TNUoS charges in respect of more complicated sites to ensure a level playing field across these types of site.

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

Workgroup assessment of Impacts

Transmission connected sites with a mixture of Final and non-Final Demand – without the proposed change, Private Wire / Behind the Meter sites would be unable to submit a declaration that they have some Non-Final Demand because they do have some Final Demand. They would have to enter into an additional connection agreement with the Network Operator and install separate Boundary Metering to prove they are using demand for the sole purpose of storage or generation (i.e. non-final demand). Whilst some form of Metering will still be needed, this change will provide clarity in the treatment of TNUoS charges in respect of more complicated sites. They will be able to show clearly where their final and non-final demand is within their declaration and be charged accordingly and avoid the need to enter into new agreements with the Network Operator. It is not the intention of this Modification to oblige Users to install suitable metering, but without it, and a suitable Declaration, the Site will be charged as Final Demand at the Boundary Point.

The DUoS arrangements are outside the scope of this change.

ESO and ELEXON – the impact on ESO and ELEXON depends on the Metering arrangements selected.

If using Settlement Metering, then there is minimal impact on the ESO although the additional metering data will be considered when establishing TNUoS tariffs annually, bands for each price control and allocating sites to bands and there will need to be an enhanced declaration process to manage the more complex nature of the declarations.

However, ELEXON may receive additional requests at the Imbalance Settlement Group⁷ for non-standard BMU metering, which will add time from a process perspective and potentially more complex metering arrangements. However, ELEXON have recently raised [Issue 88](#) to look at metering for such complicated sites although a Workgroup Member noted that Issue 88 is only relevant to Supplier Volume Allocation⁸ (SVA) – it is not considering CVA.

If Operational Metering is utilised, then the ESO would need to undertake system and process changes including data provision, which could be directly to the ESO or collected by ELEXON and passed to the ESO. Although both these are viable, work would need to be done on the SCADA system to accept the new meter input/data feed. The ESO do not own the SCADA, the Transmission Owners do. Therefore, Users would need to follow the Modification Application process for these works and apply to ESO, who would then in turn apply to the Transmission Owners. This process is time consuming and could be expensive for Users in terms of application fees and cost of works (expectation is that these could be

⁷ The Imbalance Settlement Group is responsible for overseeing the operation of the Imbalance Settlement processes and systems in the Central Volume Allocation (CVA) Market

⁸ The process for determining how much each electricity supplier's customers use in a settlement period.

tens of thousands per site) on the SCADA system. Some Workgroup Members noted that the cost could vary from site to site due to the complexity of the SCADA system, which may outweigh the benefits of self-declaring.

Consumers – if the proposed change is implemented, then it is possible that the Transmission Demand Residual will be levied on a slightly smaller charging base. However, the Proposer's expectation is that only 6-12 Sites may take up the opportunity proposed by CMP363/364 and their reasonable expectation is that a "Site" would only declare they have "Mixed Demand" if by doing so would move the site to a lower transmission band. Therefore, any cost increase would be negligible especially as any cost would be socialised (albeit to a slightly smaller charging base) and not targeted. For these reasons, the Workgroup do not consider it is necessary to undertake any further analysis.

Workgroup Vote CMP363

The Workgroup met on 11 May 2022 to carry out their Workgroup Vote. 5 Workgroup Members voted, and the full Workgroup vote can be found in Annex 10. The tables below provide:

- a summary of how many Workgroup members believed the Original and WACM1 were better than the Baseline (the current CUSC); and
- a summary of the Workgroup Members view on the best option to implement this change.

The Applicable CUSC (charging) Objectives are:

CUSC charging objectives

- 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) 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);
- 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;
- d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and
- e) To promote efficiency in the implementation and administration of the system charging methodology

*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

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

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

Best Option

4 Workgroup Members voted that WACM1 was the best option with 1 vote cast for the Original.

Workgroup Member	Company	BEST Option?	Which objective(s) does the change better facilitate? (if baseline not applicable)
Grahame Neale	ESO	Original	a, c, e
Lee Stone	E.ON	WACM1	a, c, e
Grace March	Sembcorp	WACM1	a, c
Simon Vicary	EDF Energy	WACM1	a, c, e
Edda Dirks	SSE Generation Limited	WACM1	a, b, c, e

Workgroup Vote CMP364

The Workgroup met on 11 May 2022 to carry out their workgroup vote. The full Workgroup vote can be found in Annex 11. The table below provides a summary of the Workgroup members view on the best option to implement this change.

The Applicable CUSC (non-charging) Objectives are:

CUSC non-charging objectives

- The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;
- Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;
- Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and
- Promoting efficiency in the implementation and administration of the CUSC arrangements.

*The Electricity Regulation referred to in objective (c) 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 unanimously (5 out of 5 votes) that the Original better facilitated the Applicable Objectives than the current CUSC (the Baseline).

Workgroup Member	Company	BEST Option?	Which objective(s) does the change better facilitate? (if baseline not applicable)
Grahame Neale	ESO	Original	a, b, d
Lee Stone	E.ON	Original	a, c
Grace March	Sembcorp	Original	a, c
Simon Vicary	EDF Energy	Original	a, c
Edda Dirks	SSE Generation Limited	Original	a, b, d

When will this change take place?

Implementation date

1 April 2023 - Given the intent to use the declaration process for both TNUoS and BSUoS charges, this modification will need to be implemented for the earlier of CMP308 or CMP343 – both are to be implemented 1 April 2023.

Date decision required by

Ideally in October 2022 to allow sufficient time for the ESO processes to be adapted to reflect this decision, as any volumes excluded will affect the £/site/day tariff values (for April 2023) and publication of the draft TNUoS tariffs in October 2022. However, if this timing is not possible, then decision is needed before publication of final TNUoS tariffs in January 2023 to meet a 1 April 2023 Implementation.

Implementation approach

The declaration process introduced by CMP319 (and used by CMP334) has been enhanced to account for the more complex requirements this proposal will introduce.

Interactions

Grid Code
 European
Network Codes

BSC
 EBR Article 18
T&Cs⁴

STC
 Other
modifications

SQSS
 Other

How to respond

Code Administrator Consultation questions

CMP363 Code Administrator Consultation questions

- Do you believe that CMP363 Original proposal and/or WACM1 better facilitates the Applicable Objectives?
- Do you support the proposed implementation approach?
- Do you have any other comments?

CMP364 Code Administrator Consultation questions

- Do you believe that CMP364 Original proposal and/or WACM1 better facilitates the Applicable Objectives?
- Do you support the proposed implementation approach?
- Do you have any other comments?

Views are invited on the proposals outlined in this consultation, which should be received by 5pm on **13 September 2022**. Please send your response to cusc.team@nationalgrideso.com using the response pro-forma which can be found on the [modification page](#).

If you wish to submit a confidential response, mark the relevant box on your consultation proforma. Confidential responses will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BCA	Bilateral Connection Agreement
BEGA	Bilateral Embedded Generator Agreement
BSC	Balancing and Settlement Code
BSUoS	Balancing System Use of System Charges
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
CVA	Central Volume Allocation
DCUSA	Distribution Connection and Use of System Agreement
DNO	Distribution Network Operator
DUoS	Distribution Use of System charges
EBR	Electricity Balancing Regulation
iDNO	Independent Distribution Network Operator
NETS	National Electricity Transmission System
SCADA	Supervisory Control and Data Acquisition
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
SVA	Supplier Volume Allocation
T&Cs	Terms and Conditions
TCMF	Transmission Charging Methodology Forum
TNUoS	Transmission Network Use of System charges
TCR	Target Charging Review
TDR	Transmission Demand Residual
WACM	Workgroup Alternative CUSC Modification

Reference material

- No additional reference material

Annexes

Annex	Information
Annex 1	Proposal Form
Annex 2	Terms of Reference
Annex 3	Proposer Slides at Workgroup 1
Annex 4	Complicated Sites Scenarios
Annex 5	Complicated Sites Scenarios Calculations
Annex 6	Legal Text
Annex 7	Workgroup Consultation Responses Summary
Annex 8	Workgroup Consultation Responses
Annex 9	Workgroup Alternative CUSC Modification (WACM) 1
Annex 10	CMP363 Workgroup Vote
Annex 11	CMP364 Workgroup Vote