

Stage 02: Workgroup Consultation

Connection and Use of System Code
(CUSC)

CMP266

'Removal of Demand TNUoS charging as a barrier to future elective Half Hourly settlement'

CMP 266 seeks to remove demand TNUoS charging as a barrier to future elective half hourly settlement.

This document contains the discussion of the Workgroup which formed in July 2016 to develop and assess the proposal. Any interested party is able to make a response in line with the guidance set out in Section 7 of this document.

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Responses by: 28 September 2016



High Impact: Suppliers

What stage is this document at?

01	Initial Written Assessment
02	Workgroup Consultation
03	Workgroup Report
04	Code Administrator Consultation
05	Draft CUSC Modification Report
06	Final CUSC Modification Report

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Any Questions?

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About this document

This document is a Workgroup consultation which seeks the views of CUSC and interested parties in relation to the issues raised by the Original CMP266 CUSC Modification Proposal which was raised by Damian Clough, National Grid and developed by the Workgroup. Parties are requested to respond by **5pm on 28 September 2016** to CUSC.team@nationalgrid.com using the Workgroup Consultation Response Proforma which can be found on the following link:
<http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/>

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Document Control

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0.1	14 September 2016	Code Administrator	Workgroup Consultation to Industry

1 Summary

- 1.1 This document describes the Original CMP266 CUSC Modification Proposal (the Proposal), summarises the deliberations of the Workgroup and sets out the options for potential Workgroup Alternative CUSC Modifications (WACMs). Prior to confirming any alternative proposals the Workgroup are seeking views on the options they have identified, what is the best solution to the defect and also any other further options that respondents may propose.
- 1.2 CMP266 was proposed by National Grid and was submitted to the CUSC Modifications Panel for their consideration on 16 June 2016. A copy of this Proposal is provided within Annex 1. The Panel decided to send the Proposal to a Workgroup to be developed and assessed against the CUSC Applicable Objectives. The Workgroup is required to consult on the Proposal during this period to gain views from the wider industry (this Workgroup Consultation). Following this Consultation, the Workgroup will consider any responses; vote on the best solution to the defect and report back to the Panel at the CUSC Panel meeting in October 2016.
- 1.3 CMP266 aims to remove demand TNUoS charging as a barrier to future elective half hourly settlement.
- 1.4 This Workgroup Consultation has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid Website, <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/> along with the Modification Proposal Form.

2 Background

DEFECT

- 2.1 When a meter within Profile Classes 1- 4 moves from being Non Half Hourly (NHH) settled to Half Hourly (HH) settled within the same TNUoS charging year, the Supplier and ultimately the end consumer is liable for both a NHH TNUoS liability and HH TNUoS liability for that charging year. Ofgem's stated aim is to remove barriers to allow Elective Half Hourly settlement from early 2017. This defect therefore needs to be removed.
- 2.2 Demand taken from NHH and HH meters is charged differently. For NHH settled meters, Suppliers are charged based on cumulative demand taken between the hours of 4-7pm every day throughout the charging year. For HH settled meters, a Supplier's annual liability is based on average half hourly demand taken over the three highest System peaks from the start of November to the end of February. These are commonly known as Triads. Suppliers then pass on the TNUoS liability to end consumer, but how this happens in practice is the responsibility of the Supplier.
- 2.3 Potential overcharging occurs due to the differences in how demand is charged as described in paragraph 2.2. If a meter moves to HH settlement on e.g. the 1 August, it will have being charged under the NHH Methodology for 4 months i.e. 4-7pm every day. Demand for this consumer will now be charged under the HH Methodology for the remaining months in the year. As HH demand is based on demand over the winter months, the consumer will definitely take demand over the 3 Triads. The Supplier will therefore be charged 4 months of NHH and a full year's worth of HH liability.
- 2.4 The amount of overcharging is dependent on when the consumer moves from being NHH settled to HH settled, with movement around the start of November historically picking up the largest amount of 'overcharging'. However if a consumer moves at the end of the Triad season they can achieve a saving by avoiding a month's worth of NHH as well as avoiding the Triad season. If a consumer moves within the Triad season the Supplier will not know the effect on its TNUoS liability until Triads are confirmed and announced.

INITIAL PROPOSAL

- 2.5 With reference to Ofgem's recent "Elective half-hourly settlement conclusions paper"¹ issued on 27th May 2016, there are two main solutions to the defect which the proposer has considered.
- 2.6 **Solution one:** To prevent double charging in a given charging year a consumer migrating from NHH settled to HH settled will be charged under the NHH methodology for the year in which they migrate and then will be charged under the HH methodology for future full charging years up until HH settlement is mandatory for all consumers.
- 2.7 **Solution two:** To prevent double charging of TNUoS for a meter electing to be HH settled, all demand within Measurement Class F & G will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers. Other solutions such as treating all demand sub100kW as NHH up until all consumers are HH settled have been discussed at the Transmission Charging Methodology Forum (TCMF). In its conclusions paper, Ofgem said that it thought a Modification should be raised to extend the NHH transmission charging structure to measurement classes F and G. The Initial proposed solution to address the defect for this modification was the following;

¹ https://www.ofgem.gov.uk/system/files/docs/2016/05/elective_hhs_conclusions_paper.pdf

To prevent double charging of TNUoS for a meter electing to be HH settled, all demand within Measurement Class F & G will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers.

In detail

- 2.8 For the purposes of settlement, customers are assigned to a Profile Class according to their consumption pattern and meter type. Domestic and smaller non-domestic customers are assigned to Profile Classes 1- 4 and are within Measurement Class A.
- 2.9 When meters currently in Measurement Classes A elect to be HH settled the majority move into either Measurement Class F or G. Measurement Class F is used for Half Hourly domestic Metering Systems and Measurement Class G for sub-100kW non-domestic Metering Systems with whole-current Meters.
- 2.10 National Grid receives aggregated demand data from ELEXON in a file called P210. This file is used to calculate and invoice the TNUoS Demand liability. The P210 file splits up the total demand for a BMU into either HH or NHH demand. All Half Hourly settled demand is aggregated together. When a meter moves from being NHH settled to HH settled the demand for this meter automatically moves from the NHH to HH in the P210 file. The movement of this demand within a charging year causes 'overcharging' as the Supplier and ultimately the end consumer is liable for NHH charges for part of the year for demand between the hours of 4-7pm each day, plus HH charges which are an annual charge based on winter use over the Triad half hours.
- 2.11 To prevent double charging all demand within Measurement Class F&G will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers.
- 2.12 As National Grid does not receive individual meter demand or aggregated demand per Measurement Classes to continue to charge Measurement Class F & G under the NHH methodology, will require ELEXON to send National Grid the demand for Measurement Class F for the Settlement Periods relating to 4-7pm. This allows National Grid to amend the P210 file and original demand. The alternative would be for the amendments necessary to the P210 file to be carried out by other Industry parties and National Grid receives the 'correct' amended demand data on which to calculate TNUoS charges. The overriding proposal is the same for either approach.
- 2.13 The Workgroup identified and discussed a number of different options to resolve the defect. These can be found in section 3.16 to 3.27.
- 2.14 National Grid are currently minded to go with Option 1 at this stage following Workgroup discussions, with the potential to undertake Option 3 for charging year 2018/19. If however there becomes increased certainty over the implementation of P339 for 1 April 2017 then Option 3 would become our preferred proposal.
- 2.15 BSC Modification P339² has been raised to introduce new Consumption Component Classes (CCCs) for Measurement Classes "E", "F" and "G" to enable aggregated consumption volumes for both Active Import (AI) and Active Export (AE) to be identified separately.
- 2.16 Without the approval and implementation of BSC Modification P339 it is not possible to treat demand for Measurement Classes differently as National Grid receives aggregated demand data for sub100kW. P339 could be implemented during the charging year 2017/18, although the Workgroup is currently proposing implementation on 1 April 2017. This creates a

² <https://www.elexon.co.uk/mod-proposal/p339/>

potential gap where we would not be able to receive separate demand data for that class between the time a meter migrates to HH settlement from NHH settlement and the timing of the implementation of P339. It is also currently not possible to split users up within the same Measurement Class based on the year they move to being HH settled, as this data is not currently provided to ELEXON so cannot be passed onto National Grid. Therefore for 2017/18 we believe that the Systems will not be in pace and may preclude some of the options.

- 2.17 Regardless of the System changes there was discussion within the Workgroup, whether the HH methodology is the most appropriate Methodology for smaller domestic customers, and whether or not Suppliers Systems could be designed to manage consumers bills based on Triad demand.
- 2.18 For the charging year 2018/19 it will be possible to separate demand for each Measurement Class. We are therefore open to Option 3 for the charging year 2018/19, which splits up demand for Measurement Class E, F and G, therefore allowing Measurement Class E to move to the HH methodology. These consumers are arguably larger and therefore more suited to the HH methodology which works better for consumers on fixed year-long contracts.
- 2.19 Outside of this Modification there has been discussion over the future role of Triads. Although the HH methodology is currently part of baseline and that is what the defect is compared too is there merit in moving consumers across to a HH methodology which may alter? We therefore don't support the need for any large scale system changes which will allow demand within a Measurement Class to be separated therefore aiding any option which allowed users to move across to the HH methodology.

3 Workgroup Discussions

3.1 This section provides information regarding what the Workgroup have discussed in relation to this proposal. The points discussed concerned a number of different areas as presented below.

National Grid Charging

- 3.2 Suppliers are invoiced based on aggregated demand at the GSP. The aggregated demand is a combination of demand from Non Half Hourly (NHH) meters and Half Hourly (HH) meters of which the Suppliers are responsible for. Total demand for each BMU is shown in the SAA-IO14 file.
- 3.3 HH and NHH meters are charged under different methodologies. Therefore it is necessary to split up the demand for each Half Hour settlement period. National Grid receive, from ELEXON a bespoke file called the P210 or TUOS file. This splits up the demand for each BMU into NHH and HH demand. Figure 1 illustrates this below.

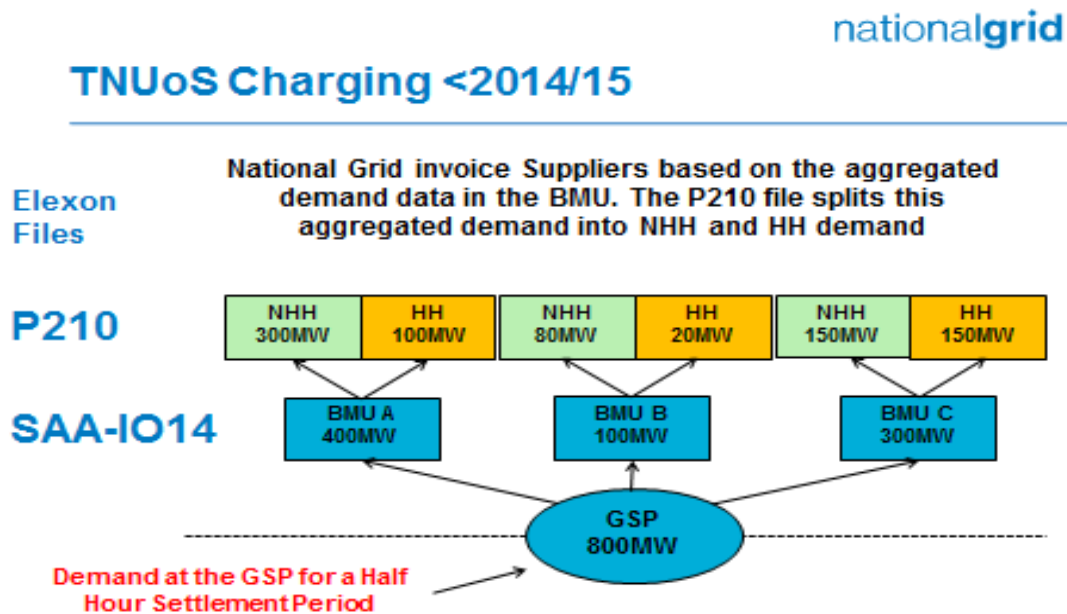
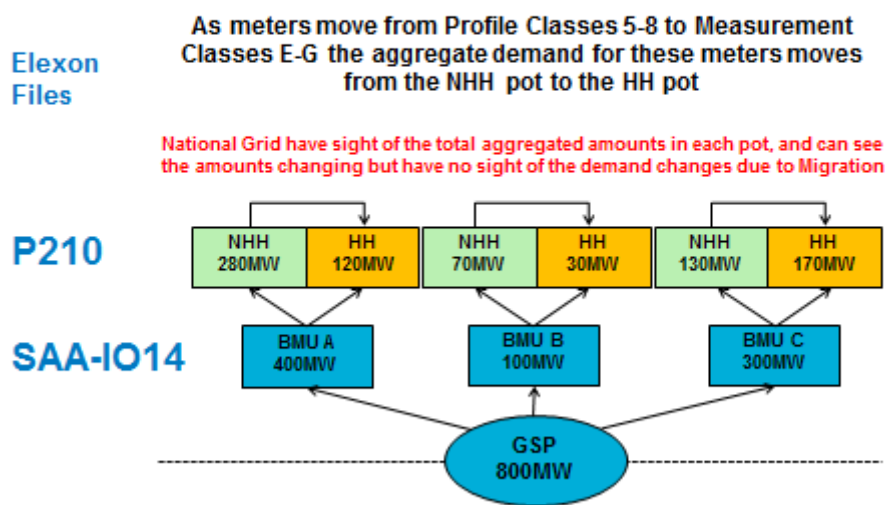


Figure 1

- 3.4 As described in the defect when you move from being NHH settled to HH settled the Supplier and ultimately the end consumer may see an increased TNUoS liability for that charging year purely through changing settlement rather than a change in demand use'. BSC Modification P272³ made HH settlement mandatory for all meters in Profile Class 5-8 with Advanced Meters (AMR). CMP241⁴ introduced a further process to prevent 'overcharging' for meters migrating as part of P272 by treating the meter as NHH for the whole charging year.
- 3.5 When a meter migrates from NHH settlement to HH settlement it moves from Measurement Class A to either Measurement Class E-G. Figure 2 shows the effect of the migration on the P210 file. Demand moves from NHH to HH. The P210 file does not show individual meter demand. Therefore the change seen is the aggregated effect of all meters migrating.

TNUoS Charging P272



2

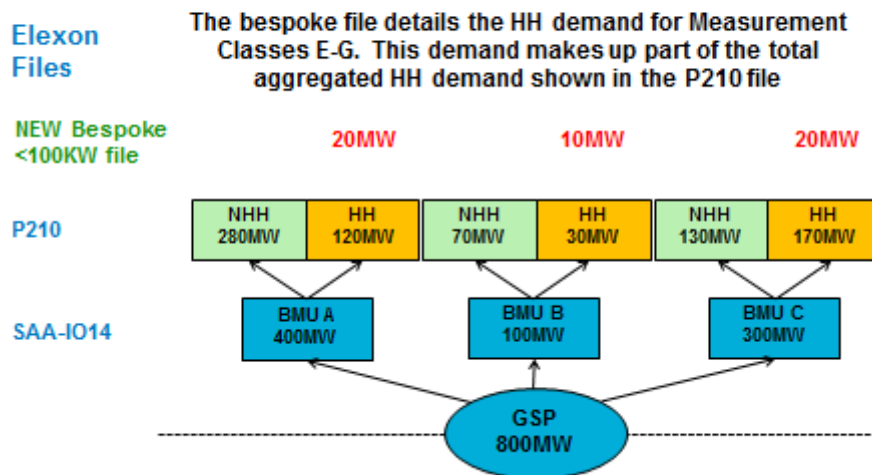
Figure 2

³ <https://www.elexon.co.uk/mod-proposal/p272-mandatory-half-hourly-settlement-for-profile-classes-5-8/>

⁴ <http://www2.nationalgrid.com/UK/Industry-information/Electricity-Codes/CUSC/Modifications/CMP241/>

- 3.6 To separate out the demand for those meters migrating as part of P272 a further file was created which showed aggregated demand for Measurement Classes E-G (sub 100kW (Figure 3). This file allows the demand for these meters to be moved from the HH demand to the NHH demand (figure 4). Demand over the Triad half hours for these meters will therefore be 0 removing the 'overcharging' issue

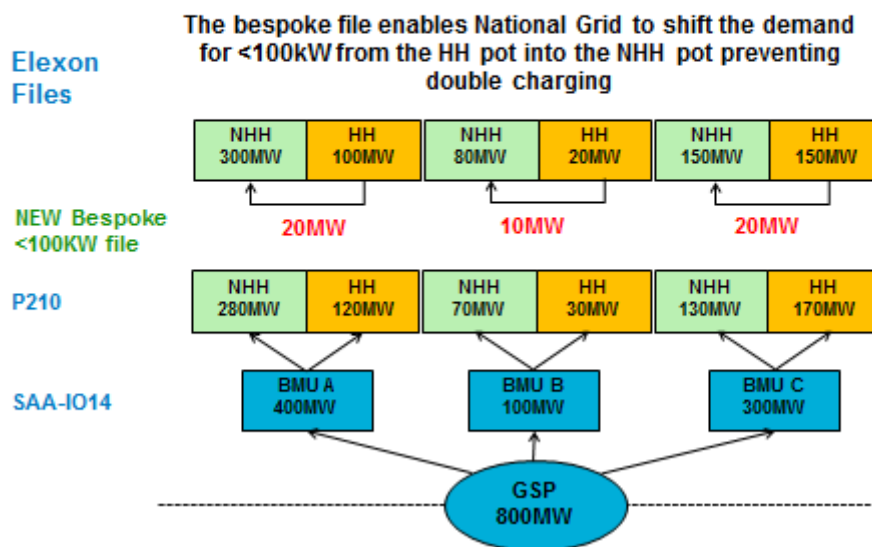
TNUoS Charging P272



3

Figure 3

TNUoS Charging P272



4

Figure 4

- 3.7 When meters migrate from profile Classes 1-4 the majority move into either Measurement Class F or G dependent on the meter type and whether the meter is classed as domestic. A few meters in these profiles are classed as CT Transformers therefore would move into Measurement Class E
- 3.8 To prevent overcharging, a similar process undertaken as part of CMP241 is proposed. However, if all sub 100kW demand was treated as NHH for the charging years or years, then meters which had migrated as part of P272 and had prepared or were expecting to be charged under the HH methodology would now not be charged under the HH methodology. This may or may not be a good thing from the perspective of the end consumer, dependent on their individual demand usage and how flexible they are prepared to be. A BSC Modification (P339) is running in parallel with this Modification, which will split up demand for each Measurement Class (E, F and G). Please note the modification was not raised due to the CUSC modification, but a number of proposals for this CUSC Modification are dependent on the implementation of P339.

P339

- 3.9 This BSC modification seeks to introduce new Consumption Component Classes (CCC). This modification allows the demand data for sub 100kW meters to be split up into individual Measurement Classes E, F and G and introduces new CCCs for micro-generation.

Measurement Class	Description
A	Non Half Hourly Metered
B	Non Half Hourly Un-Metered
C	HH metered in 100kW Premises
D	Half Hourly Unmetered
E	Half Hourly Metering Equipment at below 100kW Premises with current transformer
F	Half Hourly Metering Equipment at below 100kW Premises with current transformer or whole current, and at Domestic Premises
G	Half Hourly Metering Equipment at below 100kW Premises with whole current and not at Domestic Premises

Table 1

- 3.10 It does not allow demand to be separated out on the basis of Profile Class 5-8 or Profile Class 1-4, or time a meter migrated into the Measurement Class i.e.
- Measurement Class F 2015/16
 - Measurement Class F 2016/17

- 3.11 Although Industry is aiming to have P339 accepted by the authority around December of this year it must be noted that this does not mean it will be implemented at the same time as it is approved (we are making the assumption that it is accepted for the purposes of this report).
- 3.12 Discussions with ELEXON note that implementation may be carried out at different periods of the year, depending on existing planned work amongst other things.
- 3.13 The implications of a delay in implementation is discussed in the timings section

Options

- 3.14 The defect for this modification has already been discussed earlier in 2016 at an Industry Workgroup which was set up, with the aim of removing barriers to elective HH Settlement. From these discussions, two initial options were derived which would remove the defect of Demand TNUoS as a barrier to a consumer who wished to move to HH settlement. For reference, Options 2 and 3 in the list of options below, are the same as those that are listed in paragraph 4.29 in Ofgem's conclusion paper on HH Elective Settlement⁵. Option 3 was initially chosen as preferable.
- 3.15 As the Workgroup discussions progressed, and further information was gathered with regards to BSC Modification P339, a number of other options were created and discussed. The list of options below describes how the option would work in practice and what the Workgroup saw as the main strengths and weaknesses and any issues from a system perspective of this approach to addressing the defect. These are details in Table 2.
- 3.16 **Option 1: Continue treating all meters in Measurement Class E-G (sub100kW) as NHH up until all meters become HH settled.** This is the continuation of the workaround which was put in place to avoid overcharging as meters migrated as part of P272.
- Not reliant on P339
 - Maintains status quo, so minimal changes needed
 - Prevents meters migrating as part of P272 being charged under the HH methodology which consumers would have been expecting and may have invested for
- 3.17 **Option 2: When a meter migrates to Measurement Class F-G they are charged under the NHH methodology for the charging year it migrates to avoid double charging then as HH for the remaining charging years.**
- Reliant on P339 to split F-G from E
 - Central System not able to split data based on migration date, and no modification in place to change the system to allow this to happen, meaning not able to charge meters within the same measurement class differently
 - Whole Current meters (Measurement Class G) migrating as part of P272 (over 50% of P272 meters), will be charged differently to Current Transformer meters (Measurement Class E)
 - Being charged under the HH methodology may not be appropriate for domestic customers
- 3.18 **Option 3: All meters in Measurement Class F-G charged under the NHH methodology until 2020.**
- Reliant on P339 to split F-G from E

⁵ https://www.ofgem.gov.uk/system/files/docs/2016/05/elective_hhs_conclusions_paper.pdf

- Whole Current meters (Measurement Class G) migrating as part of P272 (over 50% of P272 meters), will be charged differently to Current Transformer meters (Measurement Class E)
- Part of P272 meters charged as expected under the HH methodology

3.19 **Option 4: All meters in Measurement Class F are charged under the NHH methodology for the year it migrates then HH for all other charging years.** Under this option only Measurement Class F is treated as NHH for the full year in which it migrates to prevent 'overcharging'. Measurement Class G is charged under existing methodology

- Reliant on P339
- Central System not able to split data based on migration date, and no modification in place to change the system to allow this to happen, meaning not able to charge meters within the same measurement class differently
- Defect for Measurement Class G meters not resolved >2 million meters
- P272 meters charged under the HH methodology as expected

3.20 **Option 5: All meters in Measurement Class F charged under the NHH methodology until 2020.** Under this option only Measurement Class F is treated as NHH for the full year in which it migrates to prevent 'overcharging'. Measurement Class G is charged under existing methodology

- Reliant on P339
- Defect for Measurement Class G meters not resolved >2 million meters
- P272 meters charged under the HH methodology as expected

3.21 **Option 5b: All meters in Measurement Class F treated as NHH enduring. G treated as NHH for first year it migrates then HH for all years onwards.**

- Reliant on P339
- Central System not able to split data based on migration date, and no modification in place to change the system to allow this to happen, meaning not able to charge meters within the same measurement class differently
- P272 meters charged under the HH methodology as expected
- Workgroup believes NHH methodology more suited to domestic customers (F) and HH to Measurement Class G

3.22 **Option 5c: All meters in Measurement Class F treated as NHH enduring. G treated as NHH up until 2020 then on HH.**

- Reliant on P339
- Central System not able to split data based on migration date, and no modification in place to change the system to allow this to happen, meaning not able to charge meters within the same measurement class differently. However time to make this change as not needed until 2020
- P272 meters not charged under the HH methodology as expected
- Whole Current meters (Measurement Class G) migrating as part of P272 (over 50% of P272 meters), will be charged differently to Current Transformer meters (Measurement Class E)

- 3.23 **Option 6: Meters migrating into Measurement Class G charged under the NHH methodology for the year it migrates then HH for all other charging years.**
- Does not deal with Measurement Class F which makes up the vast majority of the defect. Therefore this option was not seen as appropriate by the Workgroup
- 3.24 **Option 7: All meters in Measurement Class G charged under the NHH methodology until 2020.**
- Does not deal with Measurement Class F which makes up the vast majority of the defect. Therefore this option was not seen as appropriate by the Workgroup
- 3.25 **Option 8: Suppliers confirm which methodology they want a meter to be charged under.**
- The Workgroup felt that the complexity involved to put the systems in place to allow this option to work, as well as the ability of National Grid to forecast demand bases necessary to set cost reflective tariffs and then collect allowed revenues made this option unworkable
- 3.26 **Option 9: Charge all meters under the HH methodology, using profiled data for the NHH meters.** To prevent overcharging a user must be charged under either the NHH or HH methodology for the full year. All the options above repeat previous fixes by treating the migrating meter as NHH for the full year. This option removes the defect by treating the meter as HH by using profiled data.
- Not reliant on P339
 - Simple to introduce
 - Reverses the rationale behind the introduction of the NHH methodology (see section?)
 - ~85% of TNUoS revenue based on demand over 3 half hours
- 3.27 **Option 10: Charge all meters year round, removing Triad.** Instead of just charging E, F and G as NHH this option goes one step further and charges all demand users based on usage between 4-7pm
- Fundamental change to the methodology for demand users who will have being charged under the HH methodology since conception. These end consumers will be unaware of this change, and at short notice

Discrimination

- 3.28 The Workgroup is aware that the methodology states that when a meter is Half Hourly settled then it is charged using the HH methodology. A number of the proposals do not follow this, i.e. they maintain the NHH methodology whilst being settled HH. The Workgroup needs to make it clear why different sets of consumers are being treated differently and the rationale behind it.
- 3.29 Workgroup members suggested that it was unfair to discriminate against customers purely based on the type of meter installed. This will happen by treating customers with whole current meters (Measurement Class G) differently to customers with Current Transformer meters (Measurement Class E).
- 3.30 It was noted by a Workgroup member that sites with Current Transformer meters are likely to be installed on larger sites. Discussions within the Workgroup noted that the HH methodology is more suited to and was originally designed for larger sites so although this discrimination will exist for WC and CT meters, it may be appropriate to discriminate based on size.

- 3.31 As demand for Measurement Class G cannot currently be split up by ELEXON, based on the time the meter moved into the class, the result of meters are charged under different methodologies.
- 3.32 Being charged under the HH methodology can benefit some customers who can move their demand away from the traditional triad periods, or if their peaks are already at different periods of the day. However, to contrast, being charged under the HH methodology will not benefit consumers who take demand over the traditional Triad periods and are unable to reduce their demand

Introduction of NHH methodology

- 3.33 The NHH methodology was introduced at the same time competition was introduced into the Supply market 2000/2001.
- 3.34 Previous to this, all meters were charged under the HH methodology with profiled data used for the NHH meters to determine the Triad values.
- 3.35 It was argued that being charged under the HH and then current methodology for all users was not conducive to switching and therefore new competition.
- 3.36 The rationale was; as the charging year progresses a Supplier is incentivised not to take on new customers as they will be subject to a full year's worth of TNUoS liability based on Triad demand over the winter but do not have a full charging year to collect this liability from the consumer. As it was the customer's own choice when they would switch, either the new Supplier would have to take on a loss leading tariff for the first year or have an uncompetitive tariff.

Specific CMP266 Workgroup Consultation Questions:

Question 5:

Is the HH methodology therefore more appropriate to customers with long term fixed price contracts rather than the traditional domestic tariffs?

Question 6:

Will the HH methodology discourage switching?

Movement to the HH Methodology

- 3.37 Some of the options propose moving to the HH methodology the first full charging year after migrating.

- 3.38 As highlighted in previous CUSC Modification (CMP260⁶) there is the desire for certain consumers to be charged under the HH methodology as soon as possible and this is an expectation post April 2017.
- 3.39 For some consumers this gives them the opportunity to reduce their TNUoS liability to £zero, so some Suppliers will see this as a new innovative product which would be welcomed by certain consumers. By not allowing the movement to the HH methodology, this could be classed as stifling innovation.
- 3.40 It was noted that over the past few years, due to the increase in Triad avoidance, and lack of obvious Triad days over the winter, Triad periods have been harder to predict. It is no guarantee therefore that liability will be reduced to zero. It just gives consumers that opportunity, which is understandably attractive. As NHH is charged 4-7pm every day throughout the year then it is not feasible to achieve a similar zero TNUoS liability as under the HH methodology. A Workgroup member stated that there is uncertainty with the Triads, whereas there is certainty with the NHH methodology. If they demand manage 4-7pm then they will receive a reduction.
- 3.41 In fact due to the differences in average Peak assumed in the NHH methodology, and maximum Peak being charged under the HH methodology may result in an increased TNUoS liability.
- 3.42 Some Workgroup members noted that although Triad avoidance may result in a reduction in the end consumers' energy bill, it may not be clear to the consumer that the reduction was due to the avoidance of Transmission costs. This is because of how network costs are shown in the end consumer bill and wrapped up in the energy cost. Distribution and Transmission costs would need to be separated and explained to the consumer. As DUoS charges are similar to the NHH methodology then this split in network costs may not be necessary if the NHH methodology is maintained.
- 3.43 It was mentioned that the Triad avoidance benefit may not be commensurate with the change and effort necessary to avoid Triads. I.e. for domestic customers the TNUoS liability for the end consumer is estimated at £20-30.
- 3.44 For some consumers they may see this as an added level of complexity and are not yet ready to demand manage to the level necessary to achieve savings under the HH methodology.
- 3.45 A Workgroup member added that movement to the HH methodology may not be wanted by Suppliers. Not all Suppliers will want the added complexity of having to explain to the end consumer how Triads work, then have the systems in place to be able to forecast variable demand levels and liability as well as send out Triad warnings.
- 3.46 As part of the TNUoS billing process, Suppliers are invoiced based on their own forecast of HH and NHH demand, then at the end of the charging year they are invoiced based on actual demand. The use of actual demand is carried out through a process called the Initial demand reconciliation. If forecasts are incorrect then this can lead to the need to provide more credit, and large payments/credits at the demand reconciliations. For smaller Suppliers this can be problematic.
- 3.47 As Triads are not announced until the end of the charging year, Suppliers will not be able to calculate the actual liability for the end consumer until after the date of actual demand usage over the Triad period. Therefore a key question is, will Suppliers then invoice the end consumer based on actual usage, similar to pass through contracts, or will the Supplier

⁶ <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP260/>

absorb the risk of forecast usage being different to what is charged? If it's the latter, then although actual demand data will be used to charge the Supplier, the end consumers TNUoS charge will be based on an average forecast similar to the NHH profiling.

- 3.48 As mentioned above, there is the potential for increased risk to the Supplier of there being a divergence between costs passed through to the end consumer and what the Supplier is charged from National Grid. Will this then lead to an increase in Risk premia charged to the end consumer to cover this divergence?
- 3.49 As well as the risks and potential costs mentioned above, incorrect forecasts of demand and Triad avoidance may also lead to increased imbalance payments through the BSC⁷.
- 3.50 At the same time it is important to give a balanced perspective of moving to the HH methodology. The premise of the HH methodology is that it reduces the need to reinforce the System at Peak. Any increased Triad avoidance therefore reduces the need to invest in the System at Peak. There are also Security of Supply benefits. Reduced demand results in there being less Generation needed at Peak. However it must be noted that from a cost point of view this will only be a benefit if Triad avoidance is fairly predictable.

Timings

- 3.51 National Grid set draft TNUoS tariffs in December 2016 for the charging year 2017/18 charging year then finalise tariffs at the end of January 2017 for the same charging year.
- 3.52 Nearly all proposals suggest maintaining the NHH methodology for the year in which a meter migrates. Ordinarily this will therefore not affect National Grid's forecasted charging bases used for TNUoS charges as shown in the analysis section. However current forecasts for 2017/18 assume all P272 migrated meters are charged under the HH methodology.
- 3.53 If Measurement Class G meters are charged based on the NHH methodology then this will may have an impact on the charging bases with a reduction in ~2GW's of HH chargeable demand and an increase in NHH demand. It is estimated that the actual impact of tariffs will be limited as due to the linkage between Peaks and NHH demand
- 3.54 A more significant issue is the Implementation of P339.

Implementation of P339

- 3.55 P339 is currently proposed as being implemented at the start of April 2017. P339 is critical, if demand is required to be split up into separate Measurement Classes and therefore allow demand to be treated differently for sub100 KW.
- 3.56 If P339 is implemented in June what will this mean in practice? All sub 100kW demand before June will be grouped up as sub 100kW (i.e. Measurement Class E-G together). This is because the collation and splitting of Measurement Classes cannot be made retrospective to the implementation date of P339.
- 3.57 To prevent overcharging of HH on top of NHH, all HH demand for the relevant measurement classes is moved from the 4-7pm half hours and added to the equivalent NHH half hours.
- 3.58 This adjustment results in there being zero demand at Triad relating to that Measurement Class, but also ensures at the same time by moving it into the NHH half hour, they are

⁷ <https://www.elexon.co.uk/reference/credit-pricing/trading-charges/>

correctly charged the NHH liability. If the HH was just removed but not added to the NHH half hour then this would, incorrectly result in no charge.

- 3.59 If a meter for example migrates in June to HH settlement, the demand for this meter moves to the HH pot. Up until then they would be charged as NHH. Under this scenario there is no issue for that meter, but still does not solve the issues with regards to meters which move to being HH settled before this date.
- 3.60 At the moment there are currently 3.6 million smart and advanced meters installed⁸. Some of these meters, will be Gas meters, some will already be settled HH, and some may not be capable of being read and therefore settled HH. Regardless of exact numbers of meters affected by this modification it does highlight the risk that a number of meters may wish to be settled HH before P339 is implemented but the demand data for these meters cannot be separated out to allow this to happen.
- 3.61 As the implementation of P339 moves further into the charging year the issue regarding 3.62 increases. For example an implementation in November for a meter moving in June results in for July, August, September and October we would not be able to separate out the demand for this Measurement Class from any other demand in the sub100kW demand which is contained in the HH pot. This is illustrated in figure 3 below.

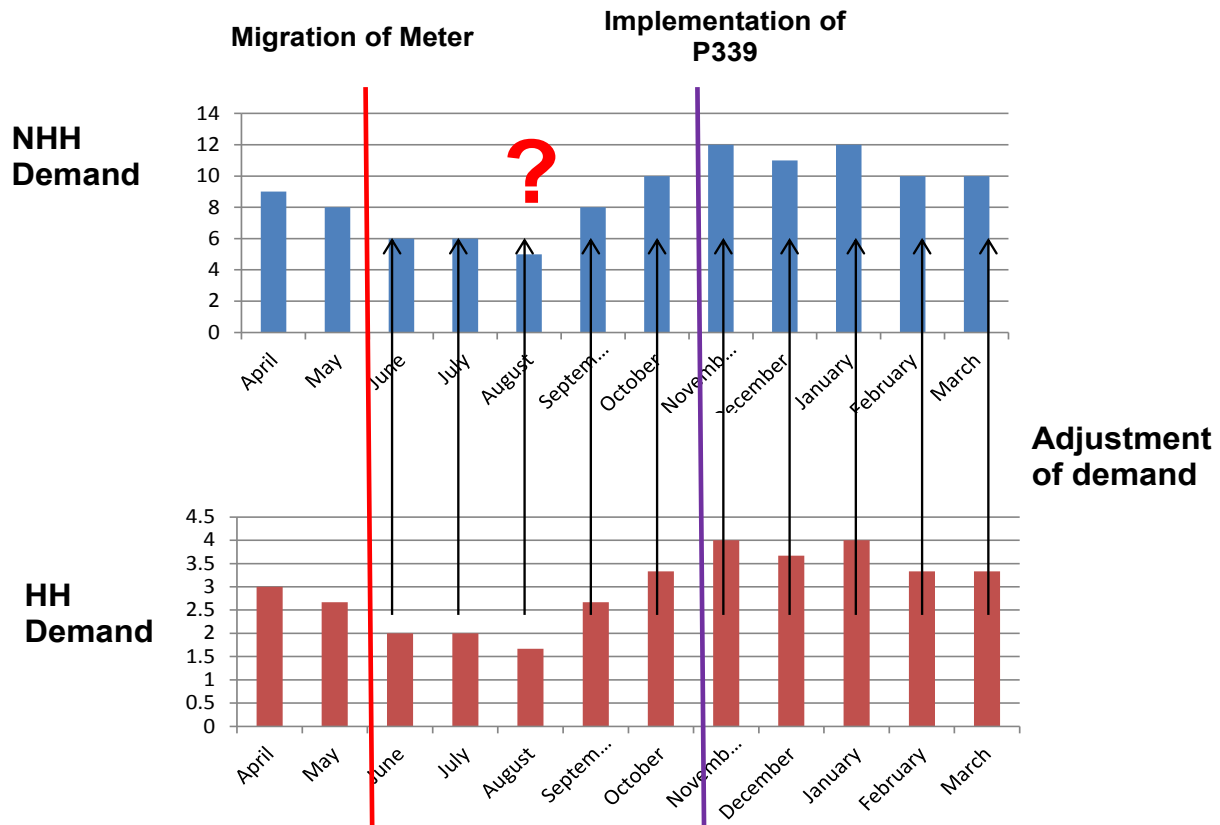


Figure 5

- 3.62 For the period June to October we would not be able to move demand associated with Measurement Class F or G from the HH pot as it cannot be separated out.

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- 3.63 Therefore either we move all sub100kW demand and treat it as NHH or accept for those months between migration and implementation, the Supplier will not be charged NHH liability for those meters migrating. It should be noted that the HH pot will also be higher. However as Triads are charged November to end of February this 'extra' demand in the HH pot will not result in an increased liability or overcharge.
- 3.64 The Implementation timing of P339 may therefore cause issues in terms of TNUoS recovery. This is of course making the assumption that P339 and this proposal is accepted.
- 3.65 The under recovery for the period noted in figure 5 can be taken into account in charge setting, but to be able to do so, National Grid will need the following information;
- An estimation of the numbers of meters migrating to HH settlement in profile Classes 1-4, the demand associated with these meters, and the month in which they will move
 - A firm Implementation date for P339. As the decision date for P339 is not until December at the earliest then this leaves little time for analysis for charge setting
- 3.66 With this data an adjustment can then be made to the NHH charging base to take into account that it will be lower for that gap between migration to HH settlement and the implementation of P339.
- 3.67 However if an adjustment is made to the charging base those meters not migrating (NHH), will in effect be paying for those meters migrating to HH settlement through an increase in their NHH tariff.
- 3.68 Please note that National Grid charge Suppliers TNUoS. Suppliers, then pass on the TNUoS liability to the end consumer through their own tariffs. Suppliers could therefore manage these 'missing months' themselves to ensure remaining NHH customers do not pay.

Cost Reflectivity and Potential Volatility of Tariffs

- 3.69 To be able to set cost reflective tariffs it is necessary to be able to accurately forecast the demand on which the tariff will be levied. If this is done incorrectly tariffs may not be cost reflective. A follow on from this is increased risk of over and under recovering. National Grid SO is incentivised through penal interest rates not to recover more and less revenue than our allowed revenues. As well as penal interest rates there is also a cash-flow risk on Industry parties and opportunity cost.
- 3.70 Over and under recovery from one year is recovered in later years through a term called K which increases or decreases allowed revenues for future years. Options which move meters to the HH methodology need to balance any advantages with the potential increased risk of over and under recovery due to the uncertainty over exactly how these meters will behave over Triads with no historic demand data other than profiles to use to estimate demand bases.
- 3.71 Any movement of meters to the HH methodology requires being able to accurately forecast the NHH demand associated with these meters so as to reduce the NHH demand bases appropriately. There are no industry plans detailing which Profile Classes will be migrating and when they will migrate, unlike P272 which was a mandatory requirement and therefore had migration plans, as requested by the Performance Assurance Board.
- 3.72 This current lack of information causes significant issues with regards to the timing of the implementation of P339 and when a meter moves to being HH settled (please see section 3.55, Implementation of P339)
- 3.73 A further task would be to forecast demand which will be subject to the HH methodology. Peak demand will be based on average Peak demand for Profiles 1-4. However there are significant differences in terms of peak for the different profiles and the numbers of meters and demand associated with each profile.
- 3.74 The change in Peak changes the HH tariff. If the Peak reduces then the HH residual goes up and vice versa.

3.75 The following table (Table 2) shows a matrix of options discussed by the Workgroup.

Option No.	NHH Methodology	HH Methodology	End date	National Grid System change	BSC Changes	CUSC Objective A - competition	CUSC Objective B - cost reflectively	Discriminatory	Rationale why could be best option	Considerations	impacts on 'vulnerable' customers	Impacts on discouraging move to HH Settlement
Option 1	EFG Will `be charged as NHH until all meters move to HH	Only start once all meters have moved to HH settlement	?	Extends workaround for HH meters <April 2015 as per CMP241	Continue sending sub<100kW file workaround needed for P272. Not dependent on implementation of P339.	Treats all SVA meters the same. Doesn't push costs from NHH to HH. Limits innovation on Triads. Customers already promised HH	Consumers are charged on the same basis as current.	Will be treating different sizes of HH settled customers differently i.e sub 100kw and greater 100kw	No system changes. Simplest in terms of tariff setting. Not dependent on P339. Maintains status quo	P272 customers expecting to be charged under the Triad methodology will now not be. They will continue to be charged as they currently are	Demand management does increase tariffs but arguably potentially not as much as if charged HH	Yes
Option 2	Charged as NHH for whole year in which they migrate	Move after first full charging year they migrated	2020	Manually adjust P210 data similar to P272 workaround but data does not now include E. Extra process needs to be created to treat meters within a MC differently depending on year they migrated	P339 allows demand for F/G from E to be split up. However would need to split up a MC based on COMC process to show i.e. demand for <2017 demand, >2017 which would require a further BSC modification to be implemented by April 2018 (potentially with associated Data Transfer Catalogue changes)	Allows innovative tariffs linked to Triad Avoidance. HH methodology potentially prevents or disincentivises switching	Requirement to accurately forecast numbers of meters in the HH category for that year, the HH demand associated with them and how they may react over Triad. More difficult to set cost reflective tariffs	Customers treated differently dependent on meter type for the first year as all G will be treated as NHH including P272 meters	Removes discrimination regarding different HH settled meters being charged under separate methodologies (after the 1st year)	Can the system change in the BSC mod actually be done? This Workgroup cannot make that decision.	Increased Triad avoidance pushes costs onto NHH. Any forecasting error is borne by customers who cannot demand manage	Consumers may not want to be charged under the HH methodology
Option 3	NHH until all PC 1-4 becomes HH (2020??)	Only until all PC 1-4 moved	2020	Manually adjust P210 data similar to P272 workaround but data does not now include E.	P339 allows demand for F/G from E to be split up. Problems with mistiming of Implementation of P339 if not April 2017	Some P272 meters in G want to be charged under HH but now cannot be. Stops innovation Triad Avoidance. HH stops switching	No requirement to forecast HH volumes or Triad behaviour	Customers treated differently dependent on meter type. HH settled meters treated differently	Allows E to be charged as HH	How to handle implementation date of P339		None

Option No.	NHH Methodology	HH Methodology	End date	National Grid System change	BSC Changes	CUSC Objective A - competition	CUSC Objective B - cost reflectively	Discriminatory	Rationale why could be best option	Considerations	impacts on 'vulnerable' customers	Impacts on discouraging move to HH Settlement
Option 4	F for first year	F move after first full charging year they migrated		Manually adjust P210 data similar to P272 workaround but does not now include E&G . Extra process to treat meters within MC F differently depending on year they migrated	P339 allows demand for F from E/G to be split up. However would need to split up a MC based on COMC process to show i.e. demand for <2017 demand, >2017	Allows innovative tariffs Triad Avoidance. HH methodology potentially prevents or disincentivises switching	Requirement to accurately forecast numbers of meters in the HH category for that year, the HH demand associated with them and how they may react over Triad. More difficult to set cost reflective tariffs	Treats classes differently	Majority of meters in terms of numbers and demand moving will be F	Doesn't stop overcharging for meters moving as part of G	Costs from Triad avoidance pushed on consumers who do not or cannot Triad avoid	Consumers may not want to be charged under the HH methodology
Option 5	MC F NHH until all PC 1-4 becomes HH (2020??)	For MC F - After all PC 1-4 moved		Manually adjust P210 data similar to P272 workaround but does not now include E&G .	P339 allows demand for F from E/G to be split up.	Doesn't allow innovative tariffs Triad Avoidance	No requirement to forecast HH volumes or Triad behaviour. Will need to for G	Treats classes differently	Majority of meters in terms of numbers and demand moving will be F. Doesn't move these meters to HH methodology	Doesn't stop overcharging for meters moving as part of G	None	
Option 5b)	F remains NHH enduring and G for year it migrates	MC G after first year		Manually adjust P210 data similar to P272 workaround but does not now include E&G . Extra process to treat meters within MC F differently depending on year they migrated. Adds complication in terms of billing	P339 allows demand for F from E/G to be split up. However would need to split up a MC based on COMC process to show i.e. demand for <2017 demand, >2017	Doesn't allow innovative tariffs Triad Avoidance for domestic.	No requirement to forecast HH volumes or Triad behaviour for domestic consumers	Treats classes differently	G more likely to want to be charged under HH methodology. Stops overcharging	Can the system change in the BSC mod actually be done? This Workgroup cannot make that decision.	Less impact due to domestic consumers not being charged Traid	

Option No.	NHH Methodology	HH Methodology	End date	National Grid System change	BSC Changes	CUSC Objective A - competition	CUSC Objective B - cost reflectively	Discriminatory	Rationale why could be best option	Considerations	impacts on 'vulnerable' customers	Impacts on discouraging move to HH Settlement
Option 5c	F remains enduring and G subject to Triads in 2020	After 2020 but only MC G		Manually adjust P210 data similar to P272 workaround but data does not now include E.	P339 allows demand for F/G from E to be split up. Problems with mistiming of Implementation of P339 if not April 2017	P272 meters in G want to be charged under HH but now cannot be. Stops innovation linked to Triad avoidance. HH stops switching	No requirement to forecast HH volumes or Triad behaviour	Customers treated differently dependent on meter type. HH settled meters treated differently	Allows E to be charged as HH	How to handle implementation date of P339		None
Option 6	first year	Move after first year		Manually adjust P210 data similar to P272 workaround but does not now include E&G. Extra process to treat meters within MC F differently depending on year they migrated	P339 allows demand for G from E/G to be split up. However would need to split up a MC based on COMC process to show i.e. demand for <2017 demand, >2017	Allows innovative tariffs linked to Triad avoidance. HH methodology potentially prevents or disincentivises switching	Requirement to accurately forecast numbers of meters in the HH category for that year, the HH demand associated with them and how they may react over Triad. More difficult to set cost reflective tariffs	Treats classes differently	Majority of meters in terms of numbers and demand moving will be F	Doesn't stop overcharging for meters moving as part of F which will be the majority	Costs from Triad avoidance pushed on consumers who do not or cannot Triad avoid	Consumers may not want to be charged under the HH methodology
Option 7	MC G NHH until all PC 1-4 becomes HH (2020)	For MC G - After all PC 1-4 moved		Manually adjust P210 data similar to P272 workaround but does not now include E&G.	P339 allows demand for G from E/G to be split up.	Doesn't allow innovative tariffs linked to Triad avoidance	No requirement to forecast HH volumes or Triad behaviour. Will need to for G	Treats classes differently	Majority of meters in terms of numbers and demand moving will be F. Doesn't move these meters to HH methodology	Doesn't stop overcharging for meters moving as part of F which will be the majority	None	
Option 8	first year	Move after first year		Numerous	Numerous					Workgroup decided that system changes and complexity ruled out this option		

Option No.	NHH Methodology	HH Methodology	End date	National Grid System change	BSC Changes	CUSC Objective A - competition	CUSC Objective B - cost reflectively	Discriminatory	Rationale why could be best option	Considerations	impacts on 'vulnerable' customers	Impacts on discouraging move to HH Settlement
Option 9	Outside the scope of this Workgroup. I.e. we would be changing the how demand is aggregated											
Option 10	Outside the scope of this Workgroup. I.e. we would be changing the demand methodology											

Table 2

Analysis

- 3.76 National Grid were asked to analyse the effect of 25% of remaining NHH settled meters moving across to HH settlement each year and therefore changing the methodology on which they are charged. (It was noted within the Workgroup that 25% was an optimistic number for migration based on P272).
- 3.77 To do this National Grid calculated the NHH demand at Peak from forecast June 2017/18 tariffs.
- 3.78 This amount was then reduced by 25% as NHH demand would be moving to HH demand from as part of the migration from the previous year.
- 3.79 Because migrating meters would be treated as NHH for the full year in which they migrate the timing of when they migrate in the year is immaterial for the purpose of this analysis.
- 3.80 Therefore for 2018/19 NHH demand for 2017/18 was reduced by 25%. This demand was further reduced by 10% to take into account that they are now incentivised to Triad avoid. A Workgroup member stated that this assumes that Suppliers are able to incentivise consumers to avoid Triads through their tariffs. If not, then there would be no TNUoS incentive to avoid demand at Peak. It may be the case that early movers, Triad avoid more than 10-25%, but the late movers do not Triad avoid at all.
- 3.81 This adjusted amount was then added to the amount of demand which is charged the HH tariff over Triad (HH Chargeable). This process was then repeated for each subsequent year. The change in the tariffs and residual is shown in Table 3 below.
- 3.82 As HH and NHH tariffs increase, the Peak reduces and the amount of revenue to be recovered from NHH increases.
- 3.83 We have used a conservative Triad avoidance figure of 10%. If we were to use a figure of 25% avoidance then the change in tariffs is more pronounced as shown in Table 4
- 3.84 The increase in Triad avoidance will have a major effect on the timing of the Triads.
- 3.85 The proportion of NHH demand compared to HH demand at Triad has historically been 70-30%. However on recent Triads this has ranged from 74-26% to 79-21%. By incentivising existing NHH demand (which makes up the larger amount of Triad demand) to Triad avoid, this will have an effect on the timings of the Triad. The actual effect is impossible to predict.
- 3.86 This uncertainty and increased risk over the amount of demand at Peak, or when the Triads may occur, will potentially increase Industry costs. At the same time it will reduce Peaks, potentially reducing future investment, and increase security of Supply due to the need for less Generation.

Changes in Peak and TNUoS liability

- 3.87 A question was asked within the Workgroup about the effect on the TNUoS liability from moving from the NHH methodology to the HH methodology, with one liability based on usage between 4-7pm, with the other based on winter peaks. The argument being that they are one is a capacity charge whereas one is an energy charge. The difference may lead to liabilities changing simply due to moving methodologies.
- 3.88 Table 5 illustrates how HH and NHH tariffs are calculated from a TNUoS perspective. First of System demand is forecasted at Triad. System demand includes both NHH settled and HH settled.
- 3.89 The revenue to be recovered from each zone equals the locational charge for that zone multiplied by System zonal Demand, plus revenue collected through the residual.
- 3.90 Only HH settled consumers who are charged for taking demand over the Triads (or paid if generating) affect the revenue recovered based on Triad demand. The remaining revenue to be recovered from the zone is charged on NHH consumers within that zone.
- 3.91 To calculate the NHH tariff we forecast chargeable NHH demand throughout the year for each zone. The remaining revenue to be recovered for that zone is then divided by the NHH demand to give a tariff.
- 3.92 NHH tariffs are therefore indirectly calculated based on NHH demand at Peak. If actual Peak usage for a consumer is close to the average Profile at Peak, and actual use throughout the year is close to average use then the Supplier will see no change in TNUoS liability from changing from NHH to HH settlement for that consumer.
- 3.93 However as average Profiles are used it is likely that actual use will differ from averages. Therefore the effect on end consumers is very individualistic. Some consumers will benefit simply by changing methodologies as their demand over the Triads is lower than average but they have higher than average use at different periods between 4-7pm, whereas some users may have a higher than average use at Triad and will therefore be charged more simply by changing methodologies.
- 3.94 As stated earlier within the report, those consumers affected most will be those who cannot demand shift from Peak or those who are NHH settled. The choice to be NHH settled may be due to factors outside the control of the consumer themselves i.e. delay in smart meters being installed.
- 3.95 If HH settled consumers actually reduce demand at Peak, then this pushes up the HH tariff ($\text{Revenue} / \text{Peak} = \text{Tariff}$). If the HH tariff increases the effect on NHH consumers is minimal.
- 3.96 Suppliers are best placed to calculate the effect on individual portfolios and consumers.

Zone	2017/18			2018/19			2019/20			2020/21		
	NHH (p/kwh)	HH (£/kW)	Residual	NHH (p/kwh)	HH (£/kW)	Residual	NHH (p/kv	HH (£/kW	Residual	NHH (p/kwh)	HH (£/kW	Res
1	5.17	30.34	47.95	5.30	31.13	48.75	5.44	31.95	49.57	5.59	32.80	
2	4.85	30.26		4.98	31.06		5.11	31.88		5.25	32.73	
3	5.71	38.78		5.83	39.58		5.95	40.40		6.07	41.25	
4	6.12	44.85		6.22	45.65		6.34	46.47		6.45	47.32	
5	6.00	44.71		6.11	45.51		6.22	46.33		6.33	47.18	
6	7.03	46.58		7.15	47.38		7.27	48.20		7.40	49.05	
7	6.64	47.96		6.75	48.75		6.86	49.57		6.98	50.42	
8	6.58	49.42		6.69	50.21		6.80	51.03		6.91	51.88	
9	7.02	49.89		7.13	50.68		7.25	51.50		7.37	52.35	
10	6.14	46.55		6.25	47.34		6.35	48.16		6.47	49.01	
11	6.90	52.86		7.01	53.65		7.11	54.47		7.22	55.32	
12	7.09	55.34		7.20	56.13		7.30	56.95		7.41	57.80	
13	6.95	53.84		7.06	54.63		7.16	55.45		7.27	56.30	
14	6.97	52.43		7.08	53.22		7.19	54.04		7.30	54.89	

Table 2

Zone	2017/18			2018/19			2019/20			2020/21		
	NHH (p/kwh)	HH (£/kW)	Residual	NHH (p/kwh)	HH (£/kW)	Residual	NHH (p/kv	HH (£/kW	Residual	NHH (p/kwh)	HH (£/kW	Res
1	5.17	30.34	47.95	5.51	32.37	49.99	5.89	34.59	52.21	6.31	37.03	
2	4.85	30.26		5.18	32.30		5.54	34.52		5.93	36.95	
3	5.71	38.78		6.01	40.82		6.33	43.04		6.69	45.47	
4	6.12	44.85		6.39	46.89		6.70	49.11		7.03	51.54	
5	6.00	44.71		6.27	46.75		6.57	48.97		6.90	51.40	
6	7.03	46.58		7.33	48.62		7.67	50.84		8.03	53.27	
7	6.64	47.96		6.92	49.99		7.23	52.21		7.57	54.65	
8	6.58	49.42		6.85	51.46		7.15	53.68		7.47	56.11	
9	7.02	49.89		7.31	51.92		7.62	54.14		7.96	56.57	
10	6.14	46.55		6.41	48.58		6.70	50.81		7.02	53.24	
11	6.90	52.86		7.17	54.89		7.46	57.11		7.77	59.55	
12	7.09	55.34		7.36	57.37		7.64	59.59		7.95	62.02	
13	6.95	53.84		7.22	55.87		7.50	58.09		7.82	60.53	
14	6.97	52.43		7.24	54.47		7.54	56.69		7.86	59.12	

Table 3

Tariffs for 2017/18 assuming P272 meters are charged under the HH methodology

Derivation of Zonal Demand HH Tariffs - Peak									
Zone	Zone Name	Total Demand Charge Base: Triad Demand (GW)	Peak Security Transport Zonal Tariff (£/kW)	Peak Security Transport Zonal Revenue (£m)	Year Round Transport Zonal Tariff (£/kW)	Year Round Transport Zonal Revenue (£m)	Residual Tariff (£/kW)	Residual Zonal (£m)	Final Tariff
1	Northern Scotland	0.675	2.41	1.62	-20.02	-13.52	47.95	32.37	
2	Southern Scotland	3.339	0.13	0.43	-17.82	-59.51	47.95	160.14	
3	Northern	2.272	-2.93	-6.65	-6.24	-14.18	47.95	108.93	
4	North West	4.030	-1.17	-4.71	-1.93	-7.78	47.95	193.24	
5	Yorkshire	3.688	-3.07	-11.32	-0.17	-0.63	47.95	176.84	
6	N Wales & Mersey	2.457	-1.55	-3.80	0.18	0.43	47.95	117.85	
7	East Midlands	4.574	-2.11	-9.67	2.12	9.68	47.95	219.35	
8	Midlands	4.314	-1.47	-6.33	2.93	12.65	47.95	206.86	
9	Eastern	6.093	1.26	7.67	0.67	4.10	47.95	292.20	
10	South Wales	1.725	-5.69	-9.82	4.29	7.39	47.95	82.70	
11	South East	3.487	3.88	13.53	1.02	3.57	47.95	167.22	
12	London	4.779	5.11	24.42	2.27	10.85	47.95	229.17	
13	Southern	5.335	1.80	9.62	4.08	21.76	47.95	255.83	
14	South Western	2.334	-0.76	-1.78	5.24	12.23	47.95	111.93	
		49.101		3.23		-12.97		2,354.62	
Derivation of Capped Zonal Demand NHH Tariffs									
Zone	Zone Name	Total Demand Charge Base: Triad Demand (MW)	Chargeable HH Zonal Triad Demand (MW)	HH Zonal Triad Demand Revenue Recovery (£m)	Residual NHH Zonal Triad Demand (MW)	Required NHH Zonal Revenue Recovery (£m)	NHH Zonal Demand 1600-1900 (TWh)	NHH Zonal Demand Share (%)	NHH Tariff
1	Northern Scotland	674.92	501.281	-15.21	1,176.20	35.68	0.690656	3%	
2	Southern Scotland	3,339.47	713.999	21.61	2,625.47	79.45	1.637004	7%	
3	Northern	2,271.58	616.820	23.92	1,654.76	64.18	1.124312	5%	
4	North West	4,029.55	1,421.969	63.78	2,607.58	116.96	1.912312	8%	
5	Yorkshire	3,687.66	1,334.079	59.65	2,353.58	105.24	1.754188	7%	
6	N Wales & Mersey	2,457.44	623.385	29.04	1,834.06	85.43	1.216042	5%	
7	East Midlands	4,574.14	1,596.876	76.58	2,977.26	142.78	2.149957	9%	
8	Midlands	4,313.67	1,754.313	86.70	2,559.36	126.48	1.921899	8%	
9	Eastern	6,093.15	1,818.441	90.71	4,274.71	213.25	3.037684	13%	
10	South Wales	1,724.64	653.004	30.40	1,071.64	49.88	0.812283	3%	
11	South East	3,486.96	1,107.568	58.54	2,379.39	125.77	1.822334	8%	
12	London	4,778.78	2,470.281	136.70	2,308.50	127.74	1.800674	8%	
13	Southern	5,334.77	2,094.656	112.77	3,240.11	174.44	2.508254	11%	
14	South Western	2,334.09	703.094	36.86	1,631.00	85.51	1.226226	5%	
		49,100.82	16,407.21	812.07	32,693.61	1,532.81	23.61		

Table 4

Impact on the CUSC

- 4.1 New paragraphs will need to be created in section 14 of the CUSC. These new paragraphs will be similar in nature to current paragraphs under the title Implementation of P272 (14.17.29.1-14.17.29.6)

Impact on Greenhouse Gas Emissions

- 4.2 None identified.

Impact on Core Industry Documents

- 4.3 None identified.

Impact on other Industry Documents

- 4.4 None identified.

5 Proposed Implementation and Transition

- 5.1 Details of discussions carried out by the Workgroup regarding implementation are captured within Section 3 of this report.

- 6.1 This Workgroup is seeking the views of CUSC Parties and other interested parties in relation to the issues noted in this document and specifically in response to the questions highlighted in the report and summarised below:

Standard Workgroup Consultation questions;

- Q1:** Do you believe that CMP266 Original proposal or either of the potential options for change better facilitate the Applicable CUSC Objectives?
- Q2:** Do you support the proposed implementation approach?
- Q3:** Do you have any other comments?
- Q4:** Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider? Please see 7.3

Specific CMP266 Workgroup Consultations

- Q5:** Is the HH methodology therefore more appropriate to customers with long term fixed price contracts rather than the traditional domestic tariffs?
- Q6:** Will the HH methodology discourage switching?
- 6.2 Please send your response using the response proforma which can be found on the National Grid website via the following link: <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/>
- 6.3 In accordance with Section 8 of the CUSC, CUSC Parties, BSC Parties, the Citizens Advice and the Citizens Advice Scotland may also raise a Workgroup Consultation Alternative Request. If you wish to raise such a request, please use the relevant form available at the weblink below:
http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/forms_guidance/
- 6.4 Views are invited upon the proposals outlined in this report, which should be received by **5pm on 28 September 2016**. Your formal responses may be emailed to: cusc.team@nationalgrid.com
- 6.5 If you wish to submit a confidential response, please note that information provided in response to this consultation will be published on National Grid'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.
- 6.6 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".

Connection and Use of System Code (CUSC)

Title of the CUSC Modification Proposal

Removal of Demand TNUoS charging as a barrier to future elective Half Hourly settlement

Submission Date

16/06/2016

Description of the Issue or Defect that the CUSC Modification Proposal seeks to address

When a meter within Profile Classes 1-4 moves from being Non Half Hourly (NHH) settled to Half Hourly (HH) settled within the same TNUoS charging year, the Supplier and ultimately the end consumer is liable for both a NHH TNUoS liability and HH TNUoS liability for that charging year. Ofgem's stated aim is to remove barriers to allow Elective Half Hourly settlement from early 2017. This defect therefore needs to be removed.

Description of the CUSC Modification Proposal

With reference to Ofgem's recent "Elective half-hourly settlement conclusions paper" (https://www.ofgem.gov.uk/system/files/docs/2016/05/elective_hhs_conclusions_paper.pdf) issued on 27th May 2016. There are two main solutions to the defect which the proposer has considered.

- 1) To prevent double charging in a given charging year a consumer migrating from NHH settled to HH settled will be charged under the NHH methodology for the year in which they migrate and then will be charged under the HH methodology for future full charging years up until HH settlement is mandatory for all consumers.*
- 2) To prevent double charging of TNUoS for a meter electing to be HH settled, all demand within Measurement Class F & G will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers.*

Other solutions such as treating all demand sub100kW as NHH up until all consumers are HH settled have been discussed at TCMF. In its conclusions paper, Ofgem said that it thought a modification should be raised to extend the NHH transmission charging structure to measurement classes F and G. The merits of these other solutions will be discussed at a workgroup level."

The proposed solution to address the defect for this modification is the following;

- 2) To prevent double charging of TNUoS for a meter electing to be HH settled, all***

demand within Measurement Class F & G will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers.

In detail

For the purposes of settlement, customers are assigned to a Profile Class according to their consumption pattern and meter type. Domestic and smaller non-domestic customers are assigned to Profile Classes 1-4 and are within Measurement Class A.

When meters currently in Measurement Classes A elect to be HH settled the majority move into either Measurement Class F or G. Measurement Class F is used for Half Hourly domestic Metering Systems and Measurement Class G for sub-100kW non-domestic Metering Systems with whole-current Meters.

National Grid receives aggregated demand data from Elexon in a file called P210. This file is used to calculate and invoice the TNUoS Demand liability . The P210 file splits up the total demand for a BMU into either HH or NHH demand. All Half Hourly settled demand is aggregated together. When a meter moves from being NHH settled to HH settled the demand for this meter automatically moves from the NHH to HH in the P210 file. The movement of this demand within a charging year causes 'overcharging' as the Supplier and ultimately the end consumer is liable for NHH charges for part of the year for demand between the hours of 4-7pm each day, plus HH charges which are an annual charge based on winter use over the Triad half hours.

To prevent double charging all demand within Measurement Class F will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers.

As National Grid does not receive individual meter demand or aggregated demand per Measurement Class; to continue to charge Measurement Class F under the NHH methodology, will either require Elexon to send National Grid the demand for Measurement Class F for the Settlement Periods relating to 4-7pm. This allows National Grid to amend the P210 file and original demand. The alternative would be, these amendments necessary to the P210 file are carried out by other Industry parties and National Grid receives the 'correct' amended demand data on which to calculate TNUoS charges. The overriding proposal is the same for either approach.

Impact on the CUSC

Section 14

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? No

No

Impact on Core Industry Documentation. Please tick the relevant boxes and provide any supporting information

BSC

Grid Code

STC

Other
(please specify)

Discussions will need to be had about the most appropriate way for demand data to amended either by National Grid or amended then provided to National Grid. The lead time for any of these changes are significantly longer than the lead time for this modification as thy need to be in place of invoicing and not tariff setting (which is sooner).

BSC modification P339 seeks to introduce new Consumption Component Classes (to align with measurement classes E, F and G) – this could help Elexon to provide National Grid with the relevant data.

Urgency Recommended: No

No

Justification for Urgency Recommendation

If you have answered yes above, please describe why this Modification should be treated as Urgent.

An Urgent Modification Proposal should be linked to an imminent issue or a current issue that if not urgently addressed may cause:

- a) A significant commercial impact on parties, consumers or other stakeholder(s); or*
- b) A significant impact on the safety and security of the electricity and/or has systems;*
or
- c) A party to be in breach of any relevant legal requirements.*

You can find the full urgency criteria on the Ofgem's website:

<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=213&refer=Licensing/IndCodes/Governance>

Self-Governance Recommended: No

No

Justification for Self-Governance Recommendation

If you have answered yes above, please describe why this Modification should be treated as Self-Governance.

A Modification Proposal may be considered Self-governance where it is unlikely to have a material effect on:

- Existing or future electricity customers;
- Competition in generation or supply;
- The operation of the transmission system;
- Security of Supply;
- Governance of the CUSC
- And it is unlikely to discriminate against different classes of CUSC Parties.

Should this CUSC Modification Proposal be considered exempt from any ongoing Significant Code Reviews?

Please justify whether this modification should be exempt from any Significant Code Review (SCR) undertaken by Ofgem. You can find guidance on the launch and conduct of SCRs on Ofgem's website, along with details of any current SCRs at:

<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=197&refer=Licensing/IndCodes/Governance>.

For further information on whether this Proposal may interact with any ongoing SCRs, please contact the Panel Secretary.

Impact on Computer Systems and Processes used by CUSC Parties:

Not all HH settled customers will be charged under the HH methodology. This; as noted with other modifications, can cause issues with Suppliers billings systems.

Details of any Related Modification to Other Industry Codes

None

Justification for CUSC Modification Proposal with Reference to Applicable CUSC Objectives:

This section is mandatory. You should detail why this Proposal better facilitates the Applicable CUSC Objectives compared to the current baseline. Please note that one or more Objective

must be justified.

Please tick the relevant boxes and provide justification:

Use of System Charging Methodology

- (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;

It is necessary to remove the blocker of being overcharged from moving from being NHH settled to HH settled as this will prevent consumers electing to be HH settled.

HH settlement allows end users to be charged on their actual energy use over peak periods as opposed to profiled data. This will aid the potential future creation of innovative tariffs thus creating competition, and may aid the creation of demand response products.

Comparison against other solutions will be done at a workgroup level

- (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 in accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard condition C26 (Requirements of a connect and manage connection);

Consumers liabilities calculated under the NHH methodology are based on profiled data which is average usage for all users within the same Profile. Consumers liabilities are therefore not directly matched to their actual usage within the time periods on which they are charged. By allowing consumers to be charged on their actual demand matches allows tariffs to better reflect costs

- (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.
These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.

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).

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Additional details

Details of Proposer: (Organisation Name)	National Grid Electricity Transmission (NGET)
Capacity in which the CUSC Modification Proposal is being proposed: (i.e. CUSC Party, BSC Party or "National Consumer Council")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Damian Clough National Grid Electricity Transmission (NGET) 01926656416 Damian.Clough@nationalgrid.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	Paul Wakeley National Grid Electricity Transmission (NGET) 01926656416 Paul.Wakeley@nationalgrid.com
Attachments (Yes/No): If Yes, Title and No. of pages of each Attachment:	

Contact Us

If you have any questions or need any advice on how to fill in this form please contact the Panel Secretary:

E-mail cusc.team@nationalgrid.com

Phone: 01926 653606

For examples of recent CUSC Modifications Proposals that have been raised please visit the National Grid Website at <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/Current/>

Submitting the Proposal

Once you have completed this form, please return to the Panel Secretary, either by email to jade.clarke@nationalgrid.com and copied to cusc.team@nationalgrid.com, or by post to:

Jade Clarke
CUSC Modifications Panel Secretary, TNS
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

If no more information is required, we will contact you with a Modification Proposal number and the date the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, the Proposal can be rejected. You will be informed of the rejection and the Panel will discuss the issue at the next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform you.

I

Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP 266 WORKSHOP

CMP266 seeks to prevent double charging of TNUoS for a meter electing to be HH settled, all demand within Measurement Class F & G will be charged under the TNUoS NHH methodology from April 2017 up until HH settlement is mandatory for all consumers.

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal **CMP266: Removal of Demand TNUoS charging as a barrier to future elective Half Hourly settlement** tabled by National Grid at the Modifications Panel meeting on 24 June 2016.
2. The proposal must be evaluated to consider whether it better facilitates achievement of the Applicable CUSC Objectives. These can be summarised as follows:

Use of System Charging Methodology

(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 in accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard 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. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.).

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).

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC Modification provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

Scope of work

4. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.
5. In addition to the overriding requirement of paragraph 4, the Workgroup shall consider and report on the following specific issues:
 - a) Carry out an impact assessment on consumers.
 - b) Be mindful of the 2 options highlighted in the paper published by Ofgem on 27 May 2016 in particular paragraph 4.29 as part of the development of the modification
 - c) The capability and speed of how quickly National Grid and ELEXON can update their systems and BSC agents if impacted
 - d) Identify the impact on Supplier Billing systems
 - e) Smart meter roll out and SMETs 1 adoption.
 - f) Consider the timing impacts on when TNUoS forecasting
6. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modifications (WACMs) arising from Group discussions which would, as compared with the Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.
7. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.
8. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.
9. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.
10. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of **10 working days** as determined by the Modifications Panel.
11. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the

Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

12. The Workgroup is to submit its final report to the Modifications Panel Secretary on **22 September 2016** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **30 September 2016**.

Membership

13. It is recommended that the Workgroup has the following members:

Role	Name	Representing
Chairman	Caroline Wright	National Grid
National Grid Representative	Damian Clough	National Grid
Industry Representatives	Karl Maryon Daniel Hickman/Herdial Dosanjh Gregory Edwards Eric Graham	Haven Power Npower British Gas TMA
Authority Representatives	Martin Bell	OFGEM
Technical secretary	Heena Chauhan	National Grid
Observers		

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk in the table above contribute toward the required quorum, determined in accordance with paragraph 14 below.

14. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP266 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.
15. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise]. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal;
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

16. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.
17. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.
18. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.
19. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

Appendix 1

Proposed CMP266 Timetable

16 June 2016	CUSC Modification Proposal submitted
24 June 2016	CUSC Modification tabled at Panel meeting
27 June 2016	Request for Workgroup members (5 Working days)
20 July 2016	Workgroup meeting 1
3 August 2016	Workgroup meeting 2
17 August 2016	Workgroup meeting 3
14 September 2016	Workgroup Consultation issued (10 Working days)
28 September 2016	Deadline for responses
4 October 2016	Workgroup meeting 4
6 October 2016	Workgroup meeting 5 (vote)
20 October 2016	Workgroup report issued to CUSC Panel
28 October 2016	CUSC Panel meeting to discuss Workgroup Report

1 November 2016	Code Administrator Consultation issued (10 Working days)
15 November 2016	Deadline for responses
17 November 2016	Draft FMR published for industry comment (5 Working days)
24 November 2016	Deadline for comments
17 November 2016	Draft FMR circulated to Panel (late paper)
25 November 2016	CUSC Panel Recommendation vote
25 November 2016	FMR circulated for Panel comment (3 Working days)
29 November 2016	Deadline for Panel comment
30 November 2016	Final report sent to Authority for decision
21 December 2016	Indicative Authority Decision due (15 Working days)
23 December 2016	Implementation date (2 Working days later)

Annex 3 – Workgroup attendance register

A – Attended
 X – Absent
 O – Alternate
 D – Dial-in

Name	Organisation	Role	20 July 2016	3 August 2016	17 August 2016
Caroline Wright	National Grid	Chair	A	A	A
Heena Chauhan	National Grid	Technical Secretary	A	A	X
Ellen Bishop	National Grid	Technical Secretary (alternate)	X	X	A
Damian Clough	National Grid	Proposer	A	A	A
Karl Maryon	Haven Power	Workgroup member	A	A	A
Daniel Hickman	RWE npower	Workgroup member	A	X	A
Herdial Dosanjh	RWE npower	Workgroup alternate	X	A	X
Gregory Edwards	British Gas	Workgroup member	A	A	A
Eric Graham	TMA	Workgroup member	A	A	X
Martin Bell	Ofgem	Workgroup observer	A	X	A
James Earl	Ofgem	Workgroup observer		A/D	
Garth Graham	SSE	Workgroup member	X	A	A/D
Elizabeth Allkins	OVO Energy	Workgroup alternate		A	A/D