



DCUSA Change Report

DCP 227 – Removing the Inconsistency in the Application of Peaking Probabilities in the CDCM

Executive Summary

DCP 227 seeks to remove an inconsistency in the application of peaking probabilities in the CDCM by ensuring costs are allocated in a way which utilises peaking probabilities for all demand tariffs.

This document presents the Change Report for DCP 227 and invites respondents to vote on the proposed change.

1 PURPOSE

- 1.1 This document is issued in accordance with Clause 11.20 of the DCUSA and details DCP 227 'Removing the Inconsistency in the Application of Peaking Probabilities in the CDCM'.
- 1.2 The voting process for the proposed variation and the timetable of the progression of the Change Proposal (CP) through the DCUSA Change Control Process is set out in this document.
- 1.3 Parties are invited to consider the proposed legal drafting amendments (Attachment 1) and submit their votes using the voting form (Attachment 2) to dcusa@electralink.co.uk no later than **14 September 2015**.

2 BACKGROUND

- 2.1 The CDCM currently applies a different set of rules, compared to other tariffs, to both the domestic unrestricted tariff and the small non-domestic unrestricted tariff when allocating the costs of each network level on the basis of contribution to system simultaneous maximum load. For these two tariffs (and the related portfolio tariffs) the network cost allocation rule uses the ratio of the tariff group coincidence factor to load factor. The peaking probabilities at the various network levels have no impact on the allocation of costs for these two tariffs – in effect the CDCM assumes that all network level assets peak at the time of system peak. The peaking probabilities input into the CDCM indicate that this is not the case.
- 2.2 For tariffs with multiple unit rates, however, the CDCM applies a revised rule to allocate the costs of each network level on the basis on contribution to system maximum load. The ratio of the coincidence factor to the load factor is replaced with a coefficient calculated by the following procedure to reflect the peaking probabilities of each network level (see paragraph 72 of Schedule 16):
 - a) Calculate the ratio of coincidence factor to load factor that would apply if units were uniformly spread within each time band, based on the estimated proportion of units recorded in each relevant time pattern regime that fall within each distribution time band and the assumption that the time of

system simultaneous maximum load is certain to be in the red or black (as appropriate) distribution time band.

- b) Calculate a correction factor for each user type as the ratio of the coincidence factor to load factor, divided by the result of the calculation above.
 - c) For each network level and each unit rate, replace the ratio of the coincidence factor to the load factor in the above formula with the ratio of coincidence factor (to network level asset peak) to load factor that would apply given peaking probabilities at that network level if units were uniformly spread within each time band, multiplied by the correction factor.
 - d) The coefficient calculated for the non-half hourly and half hourly unmetered supplies tariffs will be determined by aggregating these tariffs to produce one value.
- 2.3 The effect is to create an inconsistency in the CDCM whereby the same £/kW/yr network level cost is allocated to some tariffs on the assumption that all assets at all levels peak at the time of system peak, but allocated to other tariffs in a way which reflects the peaking probabilities of each network level.
- 2.4 DCP 227 has been raised by British Gas and seeks to remove this inconsistency by ensuring costs are allocated in a way which utilises peaking probabilities for all demand tariffs. Additional information on the CP is contained within the CP form provided as Attachment 3.

3 DCP 227 WORKING GROUP

- 3.1 The DCUSA Panel established a Working Group to assess DCP 227. This Working Group consists of DNO, Supplier and Ofgem representatives.
- 3.2 The group discussed DCP 227 and agreed that there is a discrepancy in the tariff calculation approach. Working Group members felt that the solution proposed under DCP 227 was a logical approach to addressing this discrepancy.
- 3.3 The Working Group considered why a different approach between tariffs was taken when the CDCM was first developed. The proposer of DCP 227 explained that his understanding is that when the CDCM was developed, the opinion was that the co-

incidence factor was key and that costs should be allocated using the co-incidence factor. The initial view was that all tariffs would be calculated using the co-incidence factor, however, in practice it was found that this does not work for allocating costs to multiple unit rates. For instance, for two rate tariffs the peak demand occurs during the day, therefore, if you followed a co-incidence factor approach then no costs would be allocated to the night time rate as that rate would not contribute to the system maximum demand.

- 3.4 The view of the Networks when developing the CDCM was that some costs are driven by timebands away from the peak consumption times. This is why peaking probabilities were brought in, so that costs could be allocated to multi-rate tariffs. The Ofgem decision document on the common methodology for the calculation of electricity distribution use of system charges is provided as Attachment 4. Paragraph 1.35 (on page 57) of the Ofgem decision document refers to the use of co-incidence factors.

4 DCP 227 SOLUTION

- 4.1 The DCP 227 solution seeks to remove the inconsistency in the calculation of tariffs by ensuring costs are allocated in a way which utilises peaking probabilities for all demand tariffs. The DCP 227 Working Group agree with the proposer of DCP 227 that if a single calculation approach is to be applied to all demand tariffs then it should be the approach that utilises peaking probabilities. This is because of the reasons explained in paragraph 3.3; the co-incidence factor approach does not work for allocating costs to multiple unit rates and therefore could not be applied to all demand tariffs.

5 UPDATED CDCM MODEL

- 5.1 The Working Group updated the CDCM model to reflect the proposed solution. The updated model is provided as Attachment 5, along with a description of the changes made. A version of the Annual Review Pack (ARP) that reflects these changes is provided as Attachment 10.
- 5.2 When applying the DCP 227 solution to the CDCM, the Working Group used a baseline model which incorporated both of the following approved DCUSA CPs that have not yet been fully implemented:

- DCP 179 'Amending the CDCM tariff structure' – this CP was approved for implementation on 1 April 2015, but introduces tariffs which cannot be used until November 2015 as it links to P272 and P300 which introduces new Measurement Classes.
- DCP 161 'Excess Capacity Charges' - this CP has been approved for implementation on 1 April 2016.

5.3 The reason for this is that the earliest that DCP 227 could be implemented is 1 April 2016, by which time both DCP 179 and DCP 161 will have been implemented.

6 IMPACT ASSESSMENT

Impact on the CDCM

6.1 The Working Group noted that the CDCM tariffs for the 2015/16 charging year do not incorporate DCP 161. It would therefore not be appropriate to compare the results of the DCP 227 updated CDCM model with the tariffs for the 2015/16 charging year. The Working Group instead prepared the impact assessment on a 2016/17 tariff basis¹. The spreadsheet provided as attachment 6 includes the following tariffs:

- Baseline 2016/17 tariffs (calculated using a CDCM model that includes DCP 179 and DCP 161)
- DCP 227 2016/17 tariffs (calculated using a CDCM model that includes DCP 179, DCP 161 and the proposed DCP 227 solution)

6.2 It is noted that within the impact assessment data (Attachment 6) that the impact on tariffs is reasonably consistent across all DNO Areas with some exceptions²; with the Domestic Unrestricted tariff decreasing and the Small Non-Domestic Unrestricted tariff increasing. All other tariffs vary slightly due to the impact of scaling. An executive summary providing an overview of the impact of DCP 227 on unrestricted CDCM tariffs is provided within Attachment 6. A full in-depth analysis is available on request.

¹ As a consequence of carrying out the impact assessment using 2016/17 tariffs, the Working Group needed to calculate a forecast of excess capacity charges for the 2016/17 period. Whilst it is not relevant for the progression of DCP 227, industry parties may find these forecasts helpful. The forecast values have been based on the impact assessment for DCP 161 which was undertaken in 2014.

² For instance in the UKPN LPN region, there is only a minimal (0.1%) change in the domestic unrestricted tariff, whilst the small non domestic unit rate reduces by 1.7%.

6.3 The following table provides a high level summary of the impact.

	Max Price Change p/kWh	Min Price Change p/kWh	Max % Change	Min % Change	Average Price Change p/kWh	Average % Change
Domestic Unrestricted	+ 0.110	- 0.236	+4.2%	-6.8%	- 0.009	-1.0%
Domestic Two Rate	+ 0.159	- 0.010	+4.2%	-0.2%	+ 0.015	+1.6%
Domestic Off Peak (related MPAN)	+ 0.066	- 0.010	+4.0%	=	+ 0.001	+1.9%
Small Non Domestic Unrestricted	+ 0.396	- 0.020	+17.7%	-1.7%	+ 0.027	+3.4%
Small Non Domestic Two Rate	+ 0.250	- 0.020	+4.1%	=	+ 0.020	+1.8%
Small Non Domestic Off Peak (related MPAN)	+ 0.060	=	+4.1%	+0.2%	+ 0.001	+2.1%
LV Medium Non-Domestic	+ 0.150	- 0.690	+4.2%	-1.9%	- 0.024	+1.1%
LV Sub Medium Non-Domestic	+ 1.920	- 0.210	+5.9%	=	+ 0.080	+2.1%
HV Medium Non-Domestic	+15.320	=	+5.9%	-4.6%	+ 0.634	+1.8%
LV Network Domestic	+ 0.270	- 1.050	+4.1%	-13.9%	- 0.049	-2.7%
LV Network Non-Domestic Non-CT	+ 2.392	- 0.052	+14.3%	-6.7%	+ 0.107	+3.5%
LV HH Metered	+ 0.890	- 0.190	+5.3%	-3.0%	+ 0.077	+1.4%
LV Sub HH Metered	+ 1.610	- 0.020	+5.9%	=	+ 0.105	+2.0%
HV HH Metered	+ 7.560	=	+5.9%	=	+ 0.418	+2.1%
NHH UMS category A	+ 0.270	=	+4.0%	+0.4%	+ 0.009	+2.3%
NHH UMS category B	+ 0.118	=	+4.3%	+0.4%	+ 0.008	+2.4%
NHH UMS category C	+ 0.173	=	+4.3%	+0.4%	+ 0.012	+2.4%
NHH UMS category D	+ 0.106	=	+3.9%	+0.4%	+ 0.005	+2.4%
LV UMS (Pseudo HH Metered)	+ 1.329	=	+4.6%	=	+ 0.104	+2.2%
LV Generation NHH or Aggregate HH	+ 0.112	- 0.028	+2.3%	+0.1%	- 0.000	+1.1%
LV Sub Generation NHH	=	- 0.025	+2.3%	+0.1%	- 0.001	+1.1%
LV Generation Intermittent	+ 0.006	- 0.028	+2.5%	=	- 0.001	+1.2%
LV Generation Non-Intermittent	+ 0.006	- 0.133	+2.5%	=	- 0.009	+1.1%
LV Sub Generation Intermittent	+ 0.006	- 0.025	+2.5%	=	- 0.001	+1.2%
LV Sub Generation Non-Intermittent	+ 0.006	- 0.115	+3.0%	=	- 0.008	+1.0%
HV Generation Intermittent	+ 9.360	- 0.014	+4.7%	=	+ 0.316	+1.6%
HV Generation Non-Intermittent	+ 9.360	- 0.078	+4.7%	-6.7%	+ 0.313	+1.2%

Impact on the EDCM

6.4 Some EHV Distribution Charging Methodology (EDCM) inputs are derived from the CDCM. The Working Group, therefore, calculated the impact of DCP 227 on the EDCM by utilising the DCP 227 updated CDCM model outputs in the EDCM. The approach used to carry out this impact assessment is described in Attachment 7 and the impact assessment results are provided in Attachment 8.

6.5 This impact assessment shows that the impact on charges ranges from a 0.1% to 7.1% increase. Please note that in calculating these illustrative tariffs there has been no update to the load flow modelling and customer specific inputs, which can have a significant impact on tariffs. Actual April 2016 tariffs will therefore differ from the illustrative tariffs in Attachment 8.

EDCM Impact Summary of DCP 227 Across All Licence Areas	Max Price Change p/kWh	Min Price Change p/kWh	Max % Change	Min % Change	Average Change p/kWh	Average % Change
Import Super Red	-	-	-	-	-	-
Import Fixed Charge	+2,762.52	-	+7.14%	-	+26.39	+2.67%
Import Capacity Charge	+1.52	-	+6.30%	-	+0.10	+3.08%
Export Super Red	-	-	-	-	-	-
Export Fixed Charge	+1,466.14	-	+4.71%	-	+37.36	+1.63%
Export Capacity Charge	-	-	-	-	-	-

7 DCP 227 CONSULTATION

7.1 Following its discussions on the CP, the Working Group developed a consultation document (Attachment 9) to gather information and feedback from market participants. The DCP 227 consultation was issued on 6 July 2015 and there were eight responses received, one of which was marked as confidential. The full set of responses (with the exception of the confidential response) and the Working Group's comments are provided in Attachment 9.

7.2 A summary of the responses received, and the Working Group's conclusions are set out below.

Question 1 - Do you understand the intent of the CP?

7.3 The Working Group noted that all consultation respondents understood the intent of the CP.

Question 2 - Are you supportive of the principles established by this proposal?

7.4 The Working Group noted that there was a mixed response to this question, with the majority of respondents supportive of the proposal. The following table provides a summary of the responses received.

Are you supportive of the principles established by this proposal?				
Respondent type	Yes	No	No Comment	Total
DNO	5	1		6
Supplier	1		1	2
Total	6	1	1	8

7.5 For the respondent that did not support the principles, it was noted that they explain their reasoning for this against later consultation questions.

7.6 One of the respondents to support the principles of the CP explained that it removes a

potential barrier to DCP179 in preventing customer movement between tariffs.

- 7.7 The Working Group noted that DCP 179 was proposed to remove the disincentive to the uptake of half-hourly (HH) settlement for some customer types because those tariffs imposed costs which did not reflect those customers' consumption patterns. The 'LV Network Domestic' and 'LV Network Non-Domestic Non-CT' tariffs were introduced by that change proposal and are derived from the weighted average of their respective unrestricted, two-rate and off-peak tariffs. There are inconsistencies in the derivation of unrestricted tariffs compared to two-rate and off peak tariffs and, as such, the new tariffs still impose costs on some customer types that do not reflect their network usage profiles. DCP 227 has been proposed to remove inconsistencies in the derivation of unrestricted tariffs and other tariffs within the CDCM. A benefit of this change proposal is the 'LV Network Domestic' and 'LV Network Non-Domestic Non-CT' tariffs will better reflect network usage because the tariffs upon which they are based will all be derived in a consistent manner reflecting consumption patterns.

Question 3 - Are there any unintended consequences of this proposal?

- 7.8 Seven respondents did not identify any unintended consequences of the proposal.
- 7.9 One respondent suggested that the charges to single unit rate (Unrestricted) customers would in most cases be reduced, however under this approach this would not be based upon the costs which these charges should reflect, as a result of the significant difficulty of identifying when unrestricted users actually use their energy.
- 7.10 The Working Group discussed this comment and noted that the respondent envisages that the proposal will make the charges less cost reflective. It was suggested that this concern was raised when the CDCM was originally drafted which is why this approach was not used when the CDCM was created.
- 7.11 The respondent further explained that the unrestricted tariffs in the CDCM are currently not determined using peaking probabilities and that has been unchanged since the methodology was originally introduced and implemented in 2010, although peaking probabilities is used for all other demand tariffs. At least in part this was due to the difficulty in determining when these customers use the network as for unrestricted customers this data isn't available. As a result they believe it is not and cannot be an improvement in the cost reflective nature of the CDCM to change the

approach for calculating these unrestrictive tariffs using peaking probabilities, especially when Time of Day (ToD) tariffs are becoming more widely used and following the roll out of smart metering will shortly be available for all. The respondent's view is that the approach taken when the CDCM was first developed was seen to be the most appropriate approach to assign costs to these types of customers; DCP 227 does not alter their view on this.

- 7.12 The Working Group noted that the concern as raised (not being able to identify with certainty when customers on this tariff consume energy) is a function of the settlement system that underpins the electricity market. Half-hourly (HH) meters measure consumption in each HH period whereas non half-hourly (NHH) meters provide consumption readings at points in time. The settlement system makes use of profiles to estimate consumption in each HH period, based on the NHH meter readings. The estimated HH values may not fully replicate the equivalent HH readings that would have been obtained from a HH meter because a stylised approach is taken to estimating HH consumption. This DCP does not propose to alter any element of the industry settlement systems (including the consumption profiles) and therefore would not render the CDCM any less cost-reflective in this regard.

Question 4 - Do you consider that the proposal better facilitates the DCUSA objectives?

- 7.13 The Working Group noted that six of the consultation respondents agreed that DCP 227 better facilitates the DCUSA objectives. The following table outlines which DCUSA Charging Objectives respondents stated as being better facilitated by the CP:

DCUSA Charging Objectives	No. Of Respondents that agree it is better facilitated
Objective 1	0
Objective 2	0
Objective 3	6
Objective 4	0
Objective 5	0

- 7.14 One respondent did not express a view with regards to this question.
- 7.15 Another respondent stated that they believe that the proposal does not better facilitate the DCUSA objectives as it would have a detrimental effect on the cost reflectivity of single unit rate (Unrestricted) tariffs. The Working Group noted that they had discussed this respondent's concerns against question 3 above.

Question 5 - Do you have any other comments on the proposed legal text?

7.16 No respondents had any comments on the proposed legal text.

Question 6 – Are there any alternative solutions or matters that should be considered?

7.17 Seven respondents did not identify any alternative solutions or matters.

7.18 One respondent stated that they believe that the change would be counter intuitive to benefits that are being promoted with the introduction of smart meters and the new DUoS tariffs introduced by DCP179. The respondent further explained that they believe the CP will have a detrimental impact to the new red, amber, green time bands brought in by DCP 179. This is because peaking probabilities would be used for unrestricted tariffs when there is not a method for determining the peaking point, thus it will not be cost reflective.

7.19 The majority of Working Group members did not agree with this view. As explained in paragraph 7.7 above, a benefit of DCP 277 is that the 'LV Network Domestic' and 'LV Network Non-Domestic Non-CT' tariffs will better reflect network usage because the tariffs upon which they are based will all be derived in a consistent manner reflecting consumption patterns which supports the intent of DCP 179.

Question 7 - Are you supportive of the proposed implementation date of April 2016?

7.20 The following table provides a summary of the responses received in response to this question.

Are you supportive of the proposed implementation date of April 2016?			
Respondent type	Yes	No	Total
DNO	5	1	6
Supplier		2	2
Total	5	3	8

7.21 The Working Group noted that the majority of respondents supported the proposed implementation date of April 2016.

7.22 Of the three respondents that did not support this date, two suggested that a longer notice period should be provided given the impact of the proposal. One explained that they believe the change would impede the benefits that can be met with multi-rate

tariffs.

- 7.23 The Working Group discussed the implementation period for the CP and agreed that whilst there may not be significant impact across the board, a longer implementation date may be beneficial for customers. The group agreed to change the implementation date to April 2017. It was noted that this date aligns with the principle of giving 15 months' notice of changes, as implemented by DCP 178.

Question 8 - Please state any other comments or views on the Change Proposal.

- 7.24 Seven respondents had no further comments on the proposal.
- 7.25 The eighth respondent explained that the impact of the CP means that domestic customers will benefit from lower charges whilst non-domestic customers will have higher charges. For business only Suppliers, this creates a solely negative cost impact where forward contracts have had fixed DUoS charges applied. For this reason the respondent suggested that the implementation date of the CP should be moved back to allow affected Suppliers the time they need to manage this exposure. The Working Group discussed this comment and noted that the implementation date of the CP has been moved from April 2016 to April 2017.

8 PROPOSED LEGAL TEXT

- 8.1 The proposed legal drafting of DCP 227 has been considered by the Working Group, and reviewed by the DCUSA legal advisor, and is provided as Attachment 1.
- 8.2 In the legal text, DCUSA Schedule 16 paragraph 72 has been moved to earlier in the legal text and inserted as new paragraph 69A. This has the effect of making the calculation described in the paragraph apply to all tariffs, rather than just multi-rate tariffs.

9 EVALUATION AGAINST THE DCUSA OBJECTIVES

- 9.1 For a DCUSA Change Proposal to be approved it must be demonstrated that it better meets the DCUSA Objectives. There are five General DCUSA Objectives and five Charging Objectives. The full list of objectives is documented in the CP form provided as Attachment 3.

- 9.2 The Working Group has assessed the CP against the DCUSA Objectives and the majority of Working Group members agree that the following DCUSA Objective is better facilitated by DCP 227.

Charging Objective Three - that compliance by each DNO Party with the Charging Methodologies results in charges which, so far as is reasonably practicable after taking account of implementation costs, reflect the costs incurred, or reasonably expected to be incurred, by the DNO Party in its Distribution Business

- 9.3 The Working Group agrees that Charging Objective Three is better facilitated as the CP removes an inconsistency in the allocation of network costs to different tariffs.
- 9.4 In some DNO areas the time that the network levels peak is significantly different from the time of system peak. In these cases, much of the costs of the network are driven by what is occurring outside of the time of system peak. By bringing peaking probabilities into the calculations, DCP 227 would introduce greater cost reflectivity better reflecting the costs incurred on the network.

10 IMPLEMENTATION

- 10.1 The proposed implementation date of DCP 227 is 1 April 2017.
- 10.2 DCP 227 is classified as a Part 1 matter and therefore will go to the Authority for determination after the voting process has completed.

11 WORKING GROUP CONCLUSIONS

- 11.1 The DCP 227 Working Group has discussed the proposed amendment to DCUSA. The majority of the Working Group agree that the legal text developed better facilitates the DCUSA Objectives. The Working Group agrees that the CP should be issued for industry voting.

12 ENGAGEMENT WITH THE AUTHORITY

- 12.1 Ofgem has been fully engaged throughout the development of DCP 227 as a member of the Working Group.

13 ENVIRONMENTAL IMPACT

- 13.1 In accordance with DCUSA Clause 11.14.6, the Working Group assessed whether there would be a material impact on greenhouse gas emissions if DCP 227 were implemented. The Working Group did not identify any material impact on greenhouse gas emissions from the implementation of this CP.

14 PANEL RECOMMENDATION

- 14.1 The Panel approved this Change Report on 19 August 2015. The Panel considered that the Working Group had carried out the level of analysis required to enable Parties to understand the impact of the proposed amendment and to vote on DCP 227.

- 14.2 The timetable for the progression of the Change Proposals is set out below:

Activity	Date
Change Report approved by DCUSA Panel	19 August 2015
Change Report issued for voting	21 August 2015
Voting closes	14 September 2015
Change Declaration	16 September 2015
Authority Decision	21 October 2015
DCP 227 Implemented	1 April 2017

15 NEXT STEPS

- 15.1 Parties are invited to consider the proposed amendment (Attachment 1) and submit their votes using the Voting form (Attachment 2) to DCUSA@electralink.co.uk by **14 September 2015**.
- 15.2 If you have any questions about this paper or the DCUSA Change Process please contact the DCUSA by email DCUSA@electralink.co.uk to or telephone 020 7432 2842.

ATTACHMENTS:

- Attachment 1 – DCP 227 Legal Text
- Attachment 2 – Voting Form
- Attachment 3 – DCP 227 CP Form
- Attachment 4 – Ofgem CDCM Decision Document
- Attachment 5 – DCP 227 CDCM Model
- Attachment 6 – Illustrative CDCM Tariffs and executive summary of impact
- Attachment 7 – EDCM Impact Assessment Approach
- Attachment 8 – EDCM Impact Assessment

- Attachment 9 - DCP 227 Consultation Document and responses
- Attachment 10 – Updated Annual Review Pack