DCUSA Change Report

DCP 087 - SMOOTHING LOAD CHARACTERISTICS AND PEAKING PROBABILITIES IN THE CDCM

1 PURPOSE

1.1 This document is issued in accordance with Clause 11.20 of the distribution connection and use of system agreement (DCUSA). The Change Report details DCP 087 – Smoothing Load Characteristics and Peaking Probabilities in the common distribution charging methodology (CDCM). 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.

1.2 Parties are invited to consider the proposed amendments to the legal drafting attached as Appendix A and to submit votes using the form attached as Appendix C to dcusa@electralink.co.uk by 15 September 2011.

2 SUMMARY

2.1 DCP 087 seeks to improve the cost reflectivity and reduce the year-on-year volatility of tariffs calculated by the CDCM by specifying that some of the most volatile input data (load characteristics (coincidence factors, load factors, non-half hourly multi-rate use of timeband rate one, non-half hourly multi-rate Use of timeband rate two) and peaking probabilities) are calculated using a 3-year rolling average which is more representative of the customer's typical consumption pattern.

3 DCP 087 – SMOOTHING LOAD CHARACTERISTICS AND PEAKING PROBABILITIES IN THE CDCM

3.1 The DCUSA Panel considered DCP 087 in March 2011. The Panel determined that the CP was a standard Part One change that should be progressed through the Definition Procedure to allow a Working Group to assess and develop the drafting.

4 DCP 087 – WORKING GROUP

4.1 The DCUSA Panel established a Working Group to review DCP 087. Membership of the Working Group consisted of DNO representatives and Supplier representatives.

4.2 The DCP 087 Working Group Terms of Reference tasked the group with assisting the DCUSA Panel in the evaluation of DCP 087 by undertaking the following activities:

- Consulting with the Parties, and (where appropriate) with any interested third party, on the proposal;
- Considering and clarifying the likely effects of the proposed variation to the Agreement, and indicating which Party Categories it considers will be affected by the proposed variation;
- Evaluating, developing and refining the proposed variation to the Agreement to the extent that it better facilitates the DCUSA General and CDCM Objectives;
- Evaluating the likely impact of the proposed date for implementation of the variation, and where it considers appropriate, amending this date;
- Considering whether, if the proposed variation were made, the Agreement would better facilitate the achievement of the DCUSA General Objectives than if that variation were not made:
    - 3.1.1: The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks;
    - 3.1.2: The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent therewith) the promotion of such competition in the sale, distribution and purchase of electricity;
    - 3.1.3: The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences; and
    - 3.1.4: The promotion of efficiency in the implementation and administration of this Agreement.

- Considering whether, if the proposed variation were made, the Agreement would better facilitate the achievement of the DCUSA CDCM Objectives than if that variation were not made:
    - 3.2.1: that compliance by each DNO Party with the Charging Methodologies facilitates the discharge by the DNO Party of the obligations imposed on it under the Act and by its Distribution Licence;
    - 3.2.2: that compliance by each DNO Party with the Charging Methodologies facilitates competition in the generation and supply of electricity and will not restrict, distort, or prevent competition in the transmission or distribution of electricity or in participation in the operation of an Interconnector (as defined in the Distribution Licences);

- 3.2.3: 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; and
- 3.2.4: that, so far as is consistent with Clauses 3.2.1 to 3.2.3, the Charging Methodologies, so far as is reasonably practicable, properly take account of developments in each DNO Party's Distribution Business.

4.3 The Working Group met five times between April and July 2011.

4.4 The Working Group reviewed and updated (with the agreement of the Proposer) the proposed legal drafting, performed a data analysis (on several data requests) and conducted a formal consultation.

5 IMPACT ANALYSIS

5.1 The Working Group undertook a comprehensive data analysis.

5.2 Three sets of data have been used during the analysis. Each set of data used in the analysis is based on either a two or three year average depending on the availability of data to the DNOs.

5.3 Analysis has been provided by the majority of the DNOs and the Working Group considers it is sufficient to support this change proposal. DCP 087 proposes using a three year rolling average on the basis that it is more appropriate as it will better smooth out the effects of exceptional years (e.g. extreme cold weather or severe recession) that could otherwise still have a large impact on the stability and cost reflectivity of the resulting tariffs.

Workstream C Analysis

5.4 The analysis provided with the CP (available on the DCUSA website) has been carried out by Workstream C of the CMG and investigates the volatility of load characteristics and peaking probabilities between the two annual sets of CDCM tariffs for 2011/12 and 2010/11.

5.5 The spreadsheets show the impact that the changes in these volatile input items between 2010/11 and 2011/12 would have on CDCM tariffs if they were made in isolation. The analysis also shows the impact on CDCM tariffs if an average value were used instead.

5.6 The analysis shows that the items that this proposal looks to smooth can

indeed be volatile between years and that using an average approach reduces this volatility.

Working Group Analysis 1

5.7 Whilst the original Workstream C analysis shows that there could indeed be volatility between years in individual tariff rates it did not consider the materiality of the monetary impact on customer annual tariffs. Hence, the second analysis was carried out by the DCP 087 Working Group. This makes comparisons between a base case set of data (using the April 2010 CDCM inputs) and a 'smoothed version' by adding in turn the smoothed version of the data sets identified in the DCP 087 proposal i.e.:

- Coincidence factors;
- Load factors;
- NHH proportion of units recorded in each timeband; and
- Peaking probabilities.

5.8 Having calculated the smoothed CDCM inputs for the above, five CDCM cases were prepared using the original April 2010/11 models as the base case:

1. The base case;
2. Base case plus smoothed coincidence factors;
3. Base case plus smoothed load factors;
4. Base case plus smoothed NHH proportion of units recorded in each timeband; and
5. Base case plus smoothed peaking probabilities.

5.9 The Working Group looked for maximum, minimum and average tariff disturbances in terms of the amount of network revenue recovered and the £/MPAN/year across NHH use of time bands, coincidence factors, load factors and peaking probabilities.

5.10 The following table summarises the results of the analysis.

	Max £/MPAN/year (corresponding % change in network	**Min £/MPAN/year (corresponding % change in network**	**Average £/MPAN/year**

	revenue)	revenue)	
NHH Use of Time Band	£982.53 (0.49%)	-£9,345.54 (-0.62%)	-£9.28
Coincidence Factors	£3,703.36 (2.68%)	-£29,401.85 (-1.98%)	-£48.69
Load Factors	£11,688.00 (3.49%)	-£3,586.77 (-0.24%)	£20.90
Peaking Probabilities	£982.53 (0.35%)	-£2,989.56 (-1.34%)	-£3.58

5.11 The maximum figures in the table above are defined as the maximum tariff change across all tariffs and all DNOs. The minimum is the largest negative tariff change across all tariffs and all DNOs. The average is calculated by taking the mean tariff movement for each DNO and then averaging these values across all DNOs.

5.12 The likely reasons of the high and low values were analysed and discussed by the Working Group. The reasons for the values experienced included:

- The shifting of the peak period by one half hour;
- Large percentage changes having only a very small absolute impact;
- Conversely, very small percentage changes having a large absolute impact; and
- The inventory size for unmetered supplies customers (e.g. small number of MPANs being used for large portfolios of unmetered supplies leading to a large absolute change in per MPAN tariffs).

5.13 Overall the Working Group considered that the impacts could be explained, were in line with expectations, and that the data received was sufficient to determine that impacts are broadly consistent across DNOs.

Working Group Analysis 2

5.14 The analysis thus far examined the impact of changes to the four parameters in isolation. The Working Group considered that further analysis was required in order to understand the impact on customer tariffs when changes to all four parameters are made together, as this would be more reflective of the changes that would occur during the DNO's charge setting process.

5.15 A further data request was thus made to DNOs. The Working Group has analysed DNOs' responses and summarised them. The outcome of the analysis is that in 88% of occurrences, using smoothed inputs to the CDCM model results in less tariff volatility.

5.16 In addition, in the 12% of occurrences where more volatility was seen, the average variance between the smoothed and annual inputs was only 0.8%, with a maximum difference of 4.5%. This compares with an average and maximum difference of 2.7% and 64.9% respectively in cases where using a single year of data produces more volatile tariffs.

Conclusion

5.17 The working group has concluded that that the analysis provided supports the change proposal and that moving to updating the relevant CDCM inputs on a 3 year average basis would be beneficial for the following reasons:

- The original supporting analysis provided with the change proposal clearly showed that using a single year of data for these inputs could lead to significant year-on-year disturbance in individual tariff components and that moving to an average basis reduced this disturbance;

- The first piece of data analysis produced by the working group showed the impact of moving to an averaged basis for each of the relevant inputs, and whilst in some cases the impact was large, it could be seen that when expressed as a percentage of annual charge it was much less significant. Furthermore in all of these cases the impact was lower than would have been the case had a single year of data be used instead;and

- The second piece of data analysis produced by the working group showed conclusively that when all of the relevant CDCM inputs were updated together on an averaged basis rather than on a single year basis, the volatility of tariffs and annual charges reduced in 88% of cases and was not significantly adversely affected in the remainder of cases.

6 CONSULTATION

6.1 The Working Group shared the analysis described above as part of its consultation, and asked consultees a number of questions; specifically:

- Do you understand the intent of the CP and are you supportive of its principles?
- Do you consider that the proposal better facilitates the DCUSA CDCM and General objectives? Please give supporting reasons.
- The Working Group welcome respondent's views on the legal drafting and in particular whether "reasonable endeavours" is appropriate or whether the legal drafting should be more specific in terms of the time period to be used in the calculations. In addition, how should DNOs deal with the situation in which the specified data is not available, and how should this be reflected in the legal drafting?
- Are there any alternative solutions or matters that should be considered?
- The proposed implementation date is 01 April 2012 subject to Authority Consent being granted by 01 November 2011. Are you supportive of the proposed date?

6.2 A summary of responses to the consultation are attached as Appendix B.

6.3 In reviewing consultation responses the Working Group found that respondees broadly agreed with the views of the Working Group.

6.4 The Working Group noted that respondees, with one exception, agreed with the use of the term "reasonable endeavours" in the legal drafting. The Working Group debated the use of this term and agreed to continue with the legal drafting unchanged, but that further clarity should be provided as part of the Annual Review Pack. The "comments" field in the ARP should be used by DNOs to state what data has been used in calculations; the Working Group anticipates that this would provide greater transparency to Suppliers.

7 ENVIRONMENTAL IMPACT

7.1 The Working Group, in accordance with its Terms of Reference, agreed that there was no material impact on greenhouse gas emissions as a result of the proposed variation being made.

8 PROPOSED AMENDMENT AND LEGAL DRAFTING

8.1 The proposed legal drafting of DCP 087 is set out in Appendix A.

8.2 The Working Group recommends implementation on 01 April 2012.

9 EVALUATION AGAINST THE DCUSA AND CHARGING OBJECTIVES

9.1 The Working Group considers that DCP 087 impacts the following Charging Methodologies objectives:

- Objective 3.2.2: that compliance by each DNO Party with the Charging Methodologies facilitates competition in the generation and supply of electricity and will not restrict, distort, or prevent competition in the transmission or distribution of electricity or in participation in the operation of an Interconnector (as defined in the Distribution Licences);
- Objective 3.2.3: 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;

9.2 The Working Group considers that CDCM Objectives 3.2.2 and 3.2.3 will be better facilitated by the implementation of the CP. Clause 43 of Schedule 16 of DCUSA currently states that in determining load characteristics for categories of demand users, the DNO should analyse meter and profiling data received for a recent 12 month period. The load characteristics referred to are given in Clause 42 and for each category of demand user relate to:

- Load factors [CDCM table 1041];
- Coincidence factors [CDCM table 1041]; and
- The estimated proportion of units recorded in each relevant time pattern regime that fall within each distribution time band [CDCM tables 1061/1062].

9.3 These inputs can be quite volatile year-on-year and therefore the use of a single 12 month period for calculating them could lead to volatile tariffs coming from the CDCM.

9.4 Clauses 48 and 49 of Schedule 16 of DCUSA relates to the peaking probabilities [CDCM table 1069] in respect of each network level and each

distribution time band. Peaking probabilities can also be quite volatile year-on-year leading to more volatile tariffs. The CDCM is also silent on how frequently peaking probabilities should be refreshed or the time span over which the data should be derived.

9.5 Volatile tariffs do not support the facilitation of effective competition in the generation and supply of electricity since smaller market participants with a narrow portfolio of customers may be more exposed to the effects of volatile DUoS tariffs than larger market participants with a broad portfolio of tariffs. This is because overall DUoS tariffs are constrained by the DNOs allowed revenue such that large swings in individual CDCM tariffs will, all else being equal, naturally result in compensating changes to all other CDCM tariffs. It is also the case that the impact on larger market participants with a broad portfolio of tariffs could also be significant.

9.6 Volatile data inputs that may relate to exceptional single years of data may also impair the cost reflectivity of the resultant tariffs.

9.7 This CP will have the effect of smoothing the annual volatility surrounding these inputs to the CDCM whilst the use of a three rolling average will ensure that trends over time are captured. The change proposal will also ensure that the period used to derive the inputs is common across all DNOs. The change proposal will therefore allow the CDCM to better meet the CDCM objectives of facilitating competition in the generation and supply of electricity and producing charges that are reflective of the costs incurred by the DNO.

9.8 The Working Group considers that DCP 087 impacts the following DCUSA objectives:

- Objective 3.1.2: The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent with that) the promotion of such competition in the sale, distribution and purchase of electricity.

9.9 The Working Group considers that Objective 3.1.2 will be better facilitated for the reasons given above.

10 IMPLEMENTATION

10.1 The proposed implementation date is 01 April 2012. Based on the timetable set out in section 11 the outcome of this CP will be known by end of 01

November 2011. This will allow for indicative tariffs for 2012/13 to be set and published on the new basis by 31 December 2011.

11 ENGAGEMENT WITH THE AUTHORITY

11.1 Ofgem has been fully engaged throughout the development of DCP 087 as a member of the DCUSA Panel and distribution charging methodology forum (DCMF) methodologies issues group (MIG).

12 PANEL RECOMMENDATION

12.1 The Panel approved this Change Report on 31 August 2011. The Panel considered that the Working Group had carried out the level of analysis required to enable to Parties to understand the impact of the proposed amendment and to vote on the CPs. The Panel agreed with the Working Group's view that all Parties are entitled to vote.

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

Activity	**Date**
Change Report issued for voting	01 September 2011
Voting closes	15 September 2011
Change Declaration	16 September 2011
Authority Determination	21 October 2011
Implementation	No later than 01 November 2011

13 APPENDICES:

A. DCP 087 - Legal Drafting
B. DCP 087 – Consultation Documents and Summary of consultation responses
C. DCP 087 - Voting Form