

DCUSA Change Proposal Form

This form is issued in accordance with Clause 10.5 of the DCUSA.

Completed forms should be returned to dcusa@electralink.co.uk for assessment by the DCUSA Panel. Failure to complete all parts of the form may result in it being rejected by the DCUSA Panel.

- PART A – Mandatory for all Change Proposals
- PART B – Mandatory for Non Charging Methodologies Proposals
- PART C – Mandatory for Charging Methodologies Proposals
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PART A - MANDATORY FOR ALL CHANGE PROPOSALS

Document Control	
CP Status	Standard
CP Number	DCP 266
Date of submission	09/03/2016
Attachments	Attachment 1
Originator Details	
Company Name	British Gas
Originator Name	George Moran
Category	SUPPLIER
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Change Proposal Details	
CP Title	The calculation and application of IDNO discounts
Impacted parties	DNOs, IDNOs, Suppliers
Impacted Clause(s)	Schedule 16
Part 1 / Part 2 Matter	Part 1
Provide your rationale why you consider this change is a Part 1 or Part 2 Matter	It is likely to have a significant impact on competition in the distribution of electricity – see clause 9.4.2 (B)
Related Change Proposals	[See Guidance Note 3]
Change Proposal Intent	
<p>The intent of this change proposal is to change the way in which DNO tariffs to IDNOs are calculated in the CDCM. Instead of calculating an IDNO percentage discount by comparing the avoided total cost (p/kWh) with the total cost (p/kWh) in the CDCM "Price Control Disaggregation Model" (PCDM), the intent of this change proposal is that the avoided total cost (p/kWh) calculated in the PCDM is compared with the average p/kWh figure for each All The Way (ATW) CDCM tariff in order to determine the IDNO % discount factor to be applied to each of the tariff components of the CDCM ATW tariff.</p> <p>Note: In order to ensure that the avoided total cost (p/kWh) and the ATW CDCM cost are on an equivalent basis, it is likely to be necessary to calculate the avoided total cost (p/kWh) using the allowed revenue and forecast total kWh included within the CDCM for the relevant charging year.</p>	
Business Justification and Market Benefits	
<p>The CDCM model is an incremental cost model by design. It is intended to provide forward looking cost reflective incremental cost signals to users of the network.</p>	

IDNO % discounts are calculated in the PCDM and input to the CDCM model to calculate the discounted CDCM tariffs to be applied to IDNOs. The PCDM is a total cost model by design. It is intended to calculate the avoided total cost associated with the provision of the final section of network by IDNOs.

The fact that the CDCM is an incremental cost model and the PCDM is a total cost model is intentional. Ofgem stated in their October 2009 consultation document on the CDCM that:

"2.70 Regarding the high level approach to IDNO charging, the two separate allocation methods are consistent with the view held by Ofgem that end user charges should, as far as is possible, provide end users with incremental cost signals, whilst for IDNO charging the charges should be based on a reasonable allocation of total costs to the elements of the DNOs business that are being undertaken by the IDNO."

The allocation methods of both models seem appropriate given their respective intentions, however the way in which the IDNO discounts are calculated in the PCDM and applied within the CDCM could be improved to better reconcile the two approaches.

The PCDM calculates, on a p/kWh basis, the avoided costs of IDNOs serving end customers when connecting to the host DNO at a particular voltage level. The PCDM then converts these to a percentage of total costs within the PCDM and this percentage is applied to CDCM ATW tariffs as a discount.

It would seem to be more appropriate to use the p/kWh avoided cost from PCDM and then convert this absolute p/kWh to a percentage discount based on the ATW CDCM tariffs. Such an approach would help to ensure that the absolute p/kWh discount received by IDNOs remains aligned with the absolute p/kWh total cost avoided calculated in the PCDM and is not distorted by the incremental cost allocation approach applied in the CDCM for ATW tariffs.

The Current formula for calculating the IDNO discount :

$$\frac{\text{Price Control Disaggregation model Avoided total cost (p/kWh)}}{\text{Price Control Disaggregation model Total cost (p/kWh)}} = \text{IDNO discount (\%)}$$

$$\text{CDCM ATW tariff} \times (1 - \text{IDNO discount (\%)}) = \text{IDNO tariff}$$

It is proposed that this should be:

$$\frac{\text{Price Control Disaggregation model Avoided total cost (p/kWh)}}{\text{CDCM ATW tariff (p/kWh)}} = \text{IDNO discount (\%)}$$

$$\text{CDCM ATW tariff} \times (1 - \text{IDNO discount (\%)}) = \text{IDNO tariff}$$

Simplistic Illustrative Example:

Consider an example where the total cost in the PCDM is calculated as 4p/kWh and the avoided cost in the PCDM is calculated as 1p/kWh. Since the CDCM (incremental cost model) uses a fundamentally different cost allocation approach to the PCDM (total cost model) it will only be by chance that the average CDCM ATW p/kWh is aligned with the 4p/kWh total cost calculated in the PCDM. In this simplistic example we consider two scenarios where the average CDCM ATW p/kWh is either 3p/kWh or 5p/kWh.

Under the current approach, the IDNO discount would be $1p/4p = 25\%$. This 25% discount would be applied to the CDCM ATW tariffs. If the average ATW CDCM tariff is 3p/kWh then the actual discount

received by the IDNO will be $25\% \times 3\text{p/kWh} = 0.75\text{p/kWh}$ (less than the 1p/kWh avoided total cost calculated in the PCDM). Alternatively, if the average ATW CDCM tariff is 5p/kWh then the actual discount received by the IDNO will be $25\% \times 5\text{p/kWh} = 1.25\text{p/kWh}$ (more than the 1p/kWh avoided total cost calculated in the PCDM).

Under the approach proposed by this Change Proposal, in the case where the average ATW CDCM tariff is 3p/kWh , the IDNO discount would be calculated as $1\text{p}/3\text{p} = 33.3\%$ and this 33.3% would then be applied to the ATW tariff elements to provide an actual discount of $33.3\% \times 3\text{p/kWh} = 1\text{p/kWh}$ (aligned with the 1p/kWh avoided total cost calculated in the PCDM). Similarly, in the case where the average ATW CDCM tariff is 5p/kWh , the IDNO discount would be calculated as $1\text{p}/5\text{p} = 20\%$ and this 20% would be applied to the ATW tariff elements to provide an actual discount of $20\% \times 5\text{p/kWh} = 1\text{p/kWh}$ (aligned with the 1p/kWh avoided total cost calculated in the PCDM).

The advantages of the proposed approach would be that the absolute level (p/kWh) of avoided cost discount received by IDNOs would not be affected by the CDCM methodology for ATW tariffs or by changes to it i.e. currently an x% change in a particular ATW CDCM tariff resulting from a methodology change results in a x% change in the absolute discount, or margin, received by the IDNO. Under the proposed approach any change in the CDCM methodology for ATW tariffs would have little, if any, impact on the absolute p/kWh discount received by the IDNO – instead the proposed approach would recalculate the % discount to ensure the p/kWh discount received remained aligned with the avoided p/kWh total cost calculated in PCDM.

We note that some DNOs may not update the PCDM annually. This may be acceptable under the current approach to IDNO discounts, but under the proposed approach DNOs would, at a minimum, need to update their allowed revenues in the PCDM to reflect the current charging year and it would also seem appropriate to update the unit (MWh) data in the PCDM to reflect the current charging year.

Proposed Solution and Draft Legal Text

Rather than calculating an IDNO percentage discount by comparing the avoided cost (p/kWh) with the total cost (p/kWh) in the PCDM, instead the IDNO percentage discount should compare the avoided cost (p/kWh) in the PCDM with the ATW CDCM cost (p/kWh). This will ensure that for any given level of DNO total cost (allowed revenue), the absolute p/kWh discount available to IDNOs will be aligned with the avoided p/kWh cost calculated in the PCDM and will remain stable regardless of any changes to the CDCM methodology for ATW tariffs.

Proposed Legal Text:

The legal text for this change may be quite complex and require further review by the working group. The text below is a suggestion which can be further developed within the working group:

Schedule 16

Determination of an **percentage** allocation of total revenue per unit to network levels

109. The percentage allocation of costs to network levels is determined as a weighted average of the percentage allocation for each of the elements of price control revenue, rescaled by units flowing.

110. The DNO Party determines a breakdown of price control allowed revenue over the period from 2005/2006 to 2009/2010 between (1) operating expenditure, (2) depreciation and (3) return on regulatory asset value. Each of these three components of price control allowed revenue is then allocated across each network level using the percentage cost drivers as calculated for each such network level in accordance with the provisions of paragraphs 99-108A above. The allocations of each of the three components of price control allowed revenue are aggregated by network level to obtain a percentage per network level of total price control allowed revenue.

111. The price control allowed revenue ~~2007/2008 for the charging year~~ (denoted as the [Total allowed revenue] in the price control disaggregation model) is adjusted by deducting from it the [Revenue not to share]. The [Revenue not to share] comprises the aggregate of:

- (a) the net amount earned by the DNO Party under price control financial incentive schemes ~~2007/2008 for the charging year~~ (this may be a negative number); and
- (b) Transmission exit charges ~~2007/2008 for the charging year~~.

112. This adjusted price control allowed revenue (denoted as [Total revenue to share]) is then allocated to each network level using the weighted average percentage allocations calculated in accordance with paragraph 110. Before making this allocation however, the [Total revenue to share] must be further adjusted to deduct a portion of the price control allowed revenue that is to be recovered from EHV customers. The [Adjusted Total revenue] to share is derived as follows:

[Adjusted total revenue to share] = [Total revenue to share] – [EHV Revenue] * [Total revenue to share] / [Total allowed revenue]

Where:

[Total allowed revenue] = the price control allowed revenue

[Total revenue to share] = [Total allowed revenue] – [Revenue not to share]

[EHV Revenue] = the revenue to be recovered from EHV customers ~~2007/2008 in the charging year~~

112A The [Revenue not to share] must also be adjusted to deduct a portion of the price control allowed revenue that is to be recovered from EHV customers. The [Adjusted Revenue not to share] is derived as follows:

[Adjusted revenue not to share] = [Revenue not to share] – [EHV Revenue] * [Revenue not to share] / [Total allowed revenue]

Where

[Revenue not to share] = as per paragraph 111 above.

[Total allowed revenue] = the price control allowed revenue

[EHV Revenue] = the revenue to be recovered from EHV customers ~~2007/2008 in the charging year~~.

113. The adjusted price control allowed revenues allocated to each network level are then rescaled by the estimated number of units flowing through each network level ~~in the charging year~~, loss adjusted to LV. The result is denoted by [Revenue to share per unit], for each network level. The Revenue not to share is re-scaled by all units flowing into the DNO Party's EHV network, loss adjusted to LV; the result is denoted as [Revenue not to share per unit].

113A. The DNO Party calculates the number of units flowing through each network level ~~in the charging year~~, loss-adjusted to LV, in two steps.

113B. The first step is to calculate adjustment factors for units distributed at LV, at HV and at EHV and 132kV in respect of each of the LV, HV and EHV and 132kV levels.

- For units distributed at LV, the adjustment factor is 1 (one).
- For units distributed at HV, the adjustment factor is 0 (zero) in respect of the LV level, and $(U + 0.5 * \text{Losses}) / (U + \text{Losses})$ in respect of the other levels, where U is the number of units distributed at LV plus half of the number of units distributed at HV plus a quarter of the number of units distributed at EHV and 132kV.
- For units distributed at EHV, the adjustment factor is 0 (zero) in respect of the LV and HV levels, and $(U + 0.25 * \text{Losses}) / (U + \text{Losses})$ in respect of the EHV and 132kV level, where U is defined as above.

113C. The second step is to calculate, for each of the LV, HV, and EHV and 132kV networks, the sum of the product of the three adjustment factors and the units distributed at each of LV, HV, and EHV and 132kV. This gives the number of units, (loss adjusted to LV) flowing through each of the LV, HV,

and EHV and 132kV networks. The number of units, loss adjusted to LV, flowing through the LV services, the LV mains and the HV/LV network levels are the same as the number flowing through the LV network.

113D. For each network level, the DNO Party calculates the **p/kWh allocation of costs percentage** that the [Revenue to share per unit] represents ~~of the sum of the [Revenue to share per unit] across all network levels and the [Revenue not to share per unit]~~. The results are denoted as [LV mains p/kWh allocations], [LV services p/kWh allocation], [HV/LV p/kWh allocation], [HV p/kWh allocation] and [EHV and 132kV p/kWh allocation].

Calculation of direct proportions

113E. The DNO Party calculates the [HV direct proportion] and the [LV direct proportion] on the basis of the allocation of RRP operating expenditure across network levels set out in paragraphs 101 and 102 (before the adjustment for capitalisation rates is made). Before this calculation is performed, any negative figure is set to zero.

- The [HV direct proportion] is the ratio of the sum of the operating expenditure allocated to the HV network level across the expenditure categories identified as "Direct costs" in the table headed "Allocation rules" to the sum of the operating expenditure allocated to the HV network level across all operating expenditure categories.
- The [LV direct proportion] is the ratio of the sum of the operating expenditure allocated to the LV services or the LV mains network levels across the expenditure categories identified as "Direct costs" in the table headed "Allocation rules" to the sum of the operating expenditure allocated to the LV services or LV mains networks level across all operating expenditure categories.

LV mains split

114. The DNO Party determines the proportion of the LV mains which LV-connected embedded networks are deemed to use by:

- (a) determining the total length of its LV mains used by LV-connected licensed embedded networks;
- (b) dividing that total length by the number of end users on LV-connected licensed embedded networks; and
- (c) dividing the result by the average length of LV mains by LV end user on the DNO Party's own LV network.

115. The result of this calculation is denoted "[LV mains split]".

HV split

116. The DNO Parties will procure that the Nominated Calculation Agent estimates the typical proportion of the HV network which is provided by the DNO Party in the case of HV loads supplied through an HV-connected LDNO. This estimate will be based on sample data, and the average used will be the same for all DNO Parties.

117. The proportion is denoted "[HV split]", and is represented as:

$$HV\ Split = 1 - \frac{Sum\ of\ IDNO\ network\ length/Number\ of\ IDNO\ connections}{Sum\ of\ DNO\ network\ lengths/Number\ of\ DNO\ connections}$$

Calculation of discount p/kWh percentages

118. The discount **p/kWh percentages** are determined as follows.

119. For embedded networks with an LV boundary, ~~the a p/kWh~~ discount is equal to:
[LV: LV discount] = [LV services p/kWh allocation] + ([LV mains p/kWh allocation]*(1 - [LV mains split]*[LV direct proportion])).

120. For embedded networks with an HV boundary, three p/kWh ~~percentage~~ discount figures are used.

(a) The ~~percentage~~-discount applicable to tariffs for LV network end users is:
[HV: LV discount] = [LV services p/kWh allocation] + [LV mains p/kWh allocation] + [HV/LV p/kWh allocation] + [HV p/kWh allocation]*(1 - [HV split]*[HV direct proportion]).

(b) The ~~percentage~~-discount applicable to tariffs for LV substation end users is:
[HV: LV Sub discount] = ([HV/LV p/kWh allocation] + [HV p/kWh allocation]*(1-[HV split]*[HV direct proportion]))/~~(1-[LV mains allocation]-[LV services allocation])~~.

(c) The ~~percentage~~-discount applicable to tariffs for HV end users is:
[HV: HV discount] = [HV p/kWh allocation]*(1 - [HV split]*[HV direct proportion])/~~(1-[LV services allocation]-[LV mains allocation]-[HV/LV allocation])~~

Application of discounts ~~percentages~~ to determine portfolio tariffs

121. ~~Not used.~~For each all-the-way CDCM tariff an average p/kWh is calculated by dividing the total revenue collected from all tariff components of that all-the-way tariff by the total all-the-way volume associated with that tariff. For this purposed the Domestic Two Rate and Domestic Restricted tariffs will be aggregated and the Small Non-Domestic Two Rate and Small Non-Domestic Restricted tariffs will be aggregated.

122. ~~Not used.~~For each all-the-way CDCM tariff a discount percentage is calculated by dividing the appropriate IDNO p/kWh discount (which is dependent on the IDNO level of connection and the voltage of connection of the end user) by the appropriate all-the-way CDCM tariff p/kWh calculated in 121 above.

123. Not used.

124. For demand users, the discount percentages ~~calculated in 122~~ are applied to all tariff components in all-the-way tariffs in order to determine embedded network portfolio tariffs.

125. For generation users, the unit rate element (p/kWh) is not discounted, reflecting the modelling assumption that generation benefits are seen at the voltage level above the Exit Point, and therefore the embedded LDNO simply "passes on" the benefits seen at the DNO Party level. The fixed charge element (p/day) is discounted at 100 per cent, as this tariff component in the all-the-way tariff recovers costs associated with the allocation of other expenditure to service assets, which are not provided by the DNO Party.

Proposed Implementation Date

April 2018

Impact on Other Codes

Please tick the relevant boxes and provide any supporting information.

BSC
CUSC
Grid Code

MRA
SEC
Other
None

If other please specify

Consideration of Wider Industry Impacts

[See Guidance Note 6]

Environmental Impact

[See Guidance Note 7]

Confidentiality

[See Guidance Note 8]

PART B – MANDATORY FOR NON CHARGING METHODOLOGIES CHANGE PROPOSALS

DCUSA Objectives

General Objectives:

Please tick the relevant boxes. [See Guidance Note 9]

- 1 The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks
- 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 The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences
- 4 The promotion of efficiency in the implementation and administration of this Agreement
- 5 Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

Detailed rationale for better facilitation of the DCUSA Objectives identified above

[See Guidance Note 10]

PART C – MANDATORY FOR CHARGING METHODOLOGIES CHANGE PROPOSALS

DCUSA Charging Objectives

Please tick the relevant boxes. [See Guidance Note 11]

Charging Objectives:

- 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
- 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 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
- 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
- 5 that compliance by each DNO Party with the Charging Methodologies facilitates compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

General Objectives:

- 1 The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks
- 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 The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences
- 4 The promotion of efficiency in the implementation and administration of this Agreement
- 5 Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

Detailed rationale for better facilitation of the DCUSA Objectives identified above

[See Guidance Note 10]

General and Charging Objective 2:

The proposal better facilitates general and charging objective 2 by reducing or removing the current

distortion in the absolute level of avoided total cost discount received by IDNOs by ensuring that the absolute total cost discount calculated in the PCDM is not affected by the CDCM methodology for ATW tariffs or changes to it. By ensuring that the p/kWh discounts received by IDNOs remains aligned with the absolute level of avoided costs calculated in the PCDM, this change will promote competition in the distribution of electricity. The absolute level of discount (p/kWh) received by IDNOs is also likely to be more stable and predictable since it will be protected from the impact of any changes to the methodology for ATW CDCM tariffs, which will also promote competition in the distribution of electricity.

Has this issue been discussed at any other industry forums? If so please specify and provide supporting documentation

This issue has been discussed at the DCMF MIG on a number of occasions. We also attach an example Price Control Disaggregation Model which has been shared at the DCMF MIG which illustrates how the proposed methodology would work in practice. This illustration uses 2013/14 data – the working group may want to update it.

See attachment: CDCM-IDNO-Model-WPD_EM_2013_Issue 66.xlsx

PART D – GUIDANCE NOTES FOR COMPLETING THE FORM

Guidelines for Working Group Members and Working Group Terms of Reference are available on the DCUSA Website and provide more information about the progression of the Change Process. www.dcusa.co.uk

Ref	Data Field	Guidance
1	Attachments	Append any proposed legal text or supporting documentation in order to better support / explain the CP.
2	Part 1 / Part 2 Matter	A CP must be categorised as a Part 1 or Part 2 matter in accordance with Clause 10.4.7 of the DCUSA. All Part 1 matters require Authority Consent.
3	Related Change Proposals	Indicate if the CP is related to or impacts any CP already in the DCUSA or other industry change process.
4	Proposed Solution and Draft Legal Text	<p>Outline the proposed solution for addressing the stated intent of the CP. The Change Proposal Intent will take precedence in the event of any inconsistency. A DCUSA Working Group may develop alternative solutions. The plain English description of the proposed solution should include the changes or additions to existing DCUSA Clauses (including Clause numbers).</p> <p>Insert proposed legal drafting (change marked against any existing DCUSA drafting) which enacts the intent of the solution. The legal text will be reviewed by the Working Group (if convened) and is likely to be subject to legal review as part of its progress through the DCUSA change process.</p>
5	Proposed Implementation	The Change can be implemented in February, June, and

	Date	<p>November of each year or as an extraordinary release. For Charging Methodology CPs, select an implementation date which takes in to consideration the deadlines for publishing indicative tariffs.</p> <ul style="list-style-type: none"> • Submission of Company indicative tariffs is 31 December of each year. • Final tariffs are published on 1 April of each year. <p>Please select an implementation date that provides sufficient time for the change to be incorporated into the appropriate charging model and the DCUSA in order to be reflected within the December indicative tariffs.</p> <p>Contact the DCUSA helpdesk for any further information on the releases dcusa@electralink.co.uk.</p>
6	Consideration of Wider Industry Impacts	Indicate whether this Change Proposal will be impacted by or have an impact upon wider industry developments. If an impact is identified, explain why the benefit of the Change Proposal may outweigh the potential impact and indicate the likely duration of the Change.
7	Environmental Impact	Indicate whether it is likely that there would be a material impact on greenhouse gas emissions as a result of the proposed variation being made. Please see Ofgem Guidance .
8	Confidentiality	Clearly indicate if any parts of this Change Proposal Form are to remain confidential to DCUSA Panel (and any subsequent DCUSA Working Group) and Ofgem.
9	DCUSA General Objectives	Indicate which of the DCUSA Objectives will be better facilitated by the Change Proposal.
10	Detailed Rationale for DCUSA Objectives	Provide detailed supporting reasons and information (including any initial analysis that supports your views) to demonstrate why the CP will better facilitate each of the DCUSA Objectives identified.
11	DCUSA Charging Objectives	Indicate which of the DCUSA Charging Objectives will be better facilitated by the Change Proposal. Please note that a CDCM or EDCM change may also facilitate the DCUSA General objectives.