



DUoS charging using HH settlement data

11 Feb 2016 – DCUSA Methodology Issue Group

Presented by Tom Chevalier

Purpose of workshop

- To debate the proposal of the MIG issue raised in summer 2015
- Better understand the impact and benefits
- Identify issues which will need further consideration
- Determine next steps

Issue

- Ofgem/DECC/CMA wish to enable HH settlement for all customers
- CDCM could be simplified by not accommodating the historic NHH charge structures
- Moving to HH settlement DUoS charging will simplify the billing framework and remove any barriers for customers moving between NHH & HH settlement
- Enables innovative NHH retail tariff structures
- Removes risk & complexity for all industry participants

Summary of Proposal

- All DUoS tariffs to be on RAG (or BYG) basis
 - Using existing defined aggregated tariffs
- Billing of Suppliers by Distributors
 - Individual MPAN – larger HH customers (as now)
 - Everything else - using aggregated RAG HH data (partly as now)
- Aggregated HH will be grouped
 - Different customer groups – e.g. domestic vs non-domestic, import vs generation
 - Different standing charges – based on MPAN count
 - (both as now for aggregated HH tariffs)

Proposed tariffs

- The proposal would consolidate the following into three enduring DUoS tariffs for import customers:
 - **LV Network Domestic** – which combines the existing Domestic Unrestricted, Domestic Two rate and Domestic off peak (related MPAN) and LV Medium Non-Domestic
 - **LV Network Small Non-Domestic Non-CT** – which combines the existing Small Non Domestic Unrestricted, Small Non Domestic Two Rate and Small Non Domestic Off Peak (related MPAN)
 - **LV UMS (Pseudo HH Metered)** – which would combine the existing NHH UMS category A, B, C & D and LV UMS (Pseudo HH Metered)
- The existing HH only tariffs would continue:
 - **LV HH Metered** (which equals CT metered)
 - **LV Sub HH Metered** (subject to separate debate), including LV Sub Medium Non-Domestic
 - **HV HH Metered**, including HV Medium Non-Domestic
- The generation tariffs would be combined with their respective HH tariff equivalent

Background

Competition & Markets Authority

➤ Notice of possible remedies, published 7th July 2015

102. This remedy would seek to ensure that, within a reasonable timetable, half hourly consumption data could be used by domestic and SME electricity suppliers to settle electricity for customers falling into profile classes 1 to 4. This approach to settlement would give electricity suppliers an incentive to offer innovative time-of-use tariffs to encourage peak load shifting, reducing the overall costs of generating and supplying electricity to customers. We note that an important prerequisite for this remedy to be effective is that these customers have smart meters installed, which are capable of measuring electricity consumption on a half-hourly basis.*

**Time-of-use tariffs vary the price paid by customers depending on the time/day on which they use energy. It gives customers an incentive to move their demand away from peak times, with the potential to reduce the total quantity of generation capacity needed in the system. In this way, peak load shifting has the potential to reduce costs of producing electricity substantially and is one of the most important benefits available from the introduction of smart meters*

www.gov.uk/cma-cases/energy-market-investigation

Ofgem

➤ Response to the CMA's Provisional Findings and Notice of Possible Remedies, 5th Aug 2015

We share the objectives of maximising the benefits of smart meters as quickly as possible, and aim to ensure all consumers are settled on a half-hourly basis soon after the roll-out of smart meters. To meet this timetable, we will work with DECC in the coming months to develop a plan for the implementation of half hourly settlement.

www.ofgem.gov.uk/sites/default/files/docs/2015/08/ofgem_response_to_the_pfs_and_notice_of_remedies_0.pdf

➤ Ofgem open letter, Half-hourly settlement: the way forward, 17th Dec 2015

Our ambition is for all consumers to be settled using half-hourly consumption data. In this letter we outline our plan to identify and remove barriers facing suppliers wishing to settle their domestic and smaller non-domestic customers on a half-hourly basis by early 2017.

www.ofgem.gov.uk/publications-and-updates/half-hourly-settlement-way-forward

Distribution Licence

➤ Distribution Licence standard conditions

Part B: The Relevant Objectives 13.3

The Relevant Objectives in relation to the Charging Methodology are:

(a) that compliance with the methodology facilitates the discharge by the licensee of the obligations imposed on it under the Act and by this licence;

(b) that compliance with the methodology facilitates competition in the generation and supply of electricity, and does not restrict, distort, or prevent competition in the transmission or distribution of electricity;

(c) that compliance with the methodology results in charges which reflect, as far as is reasonably practicable (taking account of implementation costs), the costs incurred by the licensee in its Distribution Business;

(d) that, so far as is consistent with subparagraphs (a), (b), and (c), the methodology, as far as is reasonably practicable, properly takes account of developments in the licensee's Distribution Business; and

(e) compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

<https://epr.ofgem.gov.uk/Content/Documents/Electricity%20Distribution%20Consolidated%20Standard%20Licence%20Conditions%20-%20Current%20Version.pdf>

DUoS - HH settlement

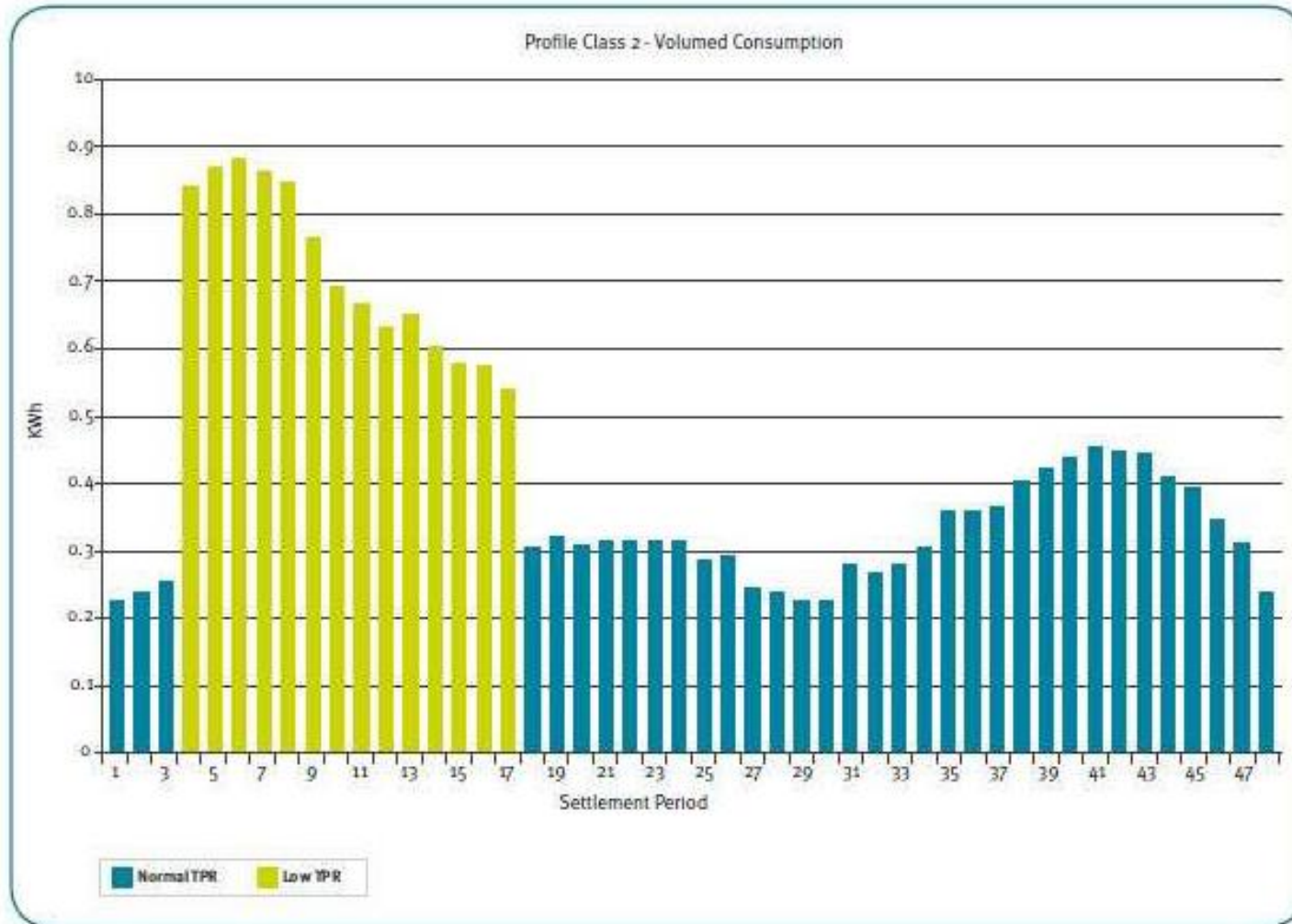
- BSC modification P272, et al
 - The BSC Modification was delayed due to detrimental impact of DUoS (and TUoS) charges
 - Changes to DUoS enable HH settlement for all customer groups
 - Although the *average revenue* should be the same, the actual charges remain different depending on how a customer is settled
 - For a supplier or customer to be charged HH aggregated DUoS it is necessary to have a HH meter fitted and settled

Issues & discussion

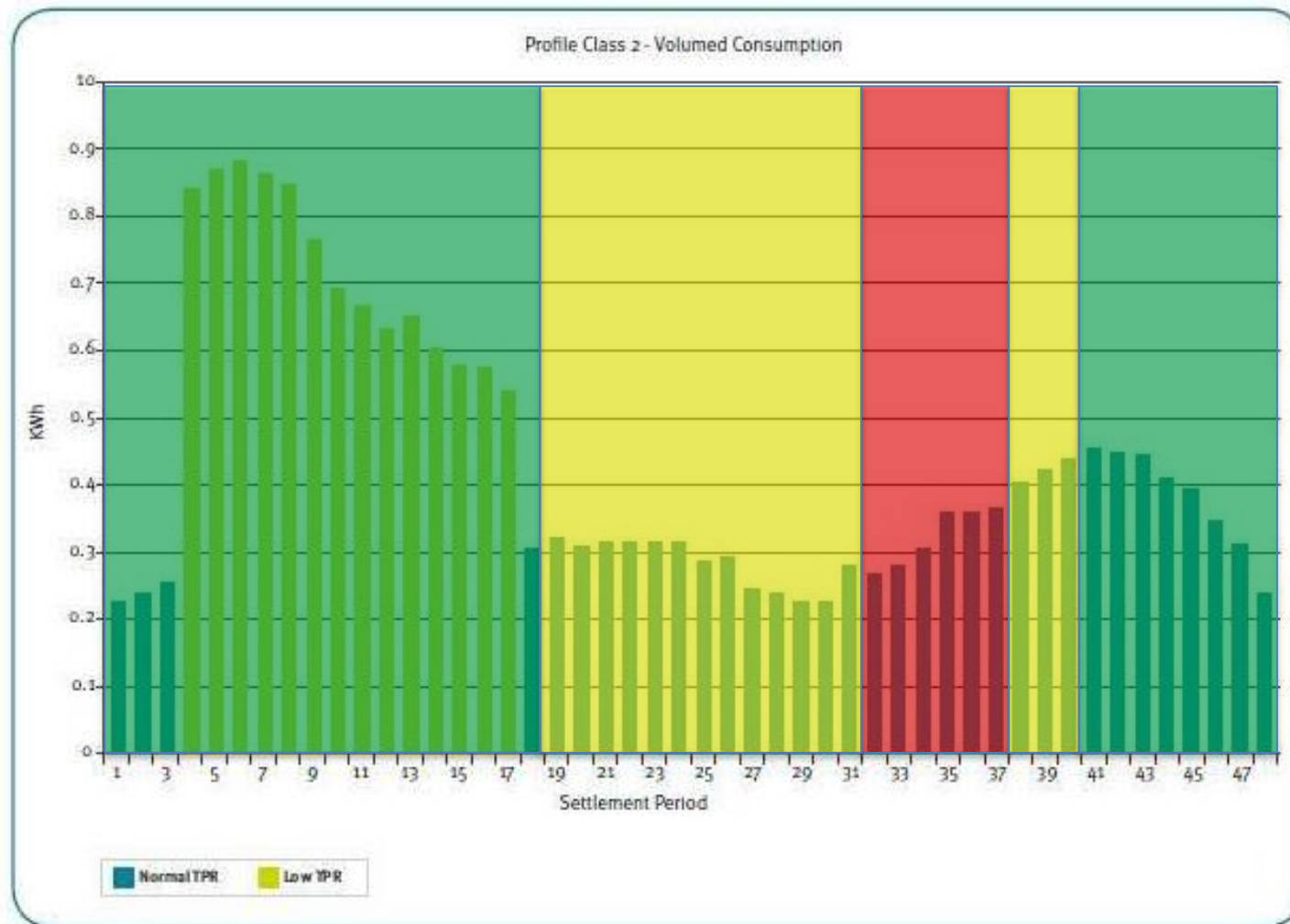
Key issues

- Remove the inter-relationship between Settlement and DUoS billing
- Ensure Distributors revenue forecasts reflect actual income

Settlement profile - chunking



Settlement profile - RAG



Over lay with ENWL RAG times for Mon-Fri

Example of published DUoS (ENWL 2016/17)

Tariff name	Open LLFCs	PCs	Unit charge 1 (NHH) or red/black charge (HH) p/kWh	Unit charge 2 (NHH) or amber/yellow charge (HH) p/kWh	Green charge(HH) p/kWh	Fixed charge p/MPAN/day
Domestic Unrestricted	011, 041, 441, 511		2.600			3.22
Domestic Two Rate	031, 051, 061, 451, 531		2.902	0.194		3.22
Domestic Off Peak (related MPAN)	081, 581		0.257			
Small Non Domestic Unrestricted	131, 191, 631		2.230			3.22
Small Non Domestic Two Rate	161, 171, 661		2.370	0.162		3.22
Small Non Domestic Off Peak (related MPAN)	091, 591		0.182			
LV Medium Non-Domestic	241, 431, 481, 751		2.326	0.146		20.22
LV Sub Medium Non-Domestic	242, 432, 482, 752		2.056	0.122		56.12
HV Medium Non-Domestic			1.498	0.069		163.52
LV Network Domestic	821		15.913	1.480	0.189	3.22
LV Network Non-Domestic Non-CT	831		14.284	1.295	0.164	3.22

Anomalies

- The p/kWh charge for domestic customers under the two rate tariff is higher than the green HH rate. Yet it is reversed for the non-domestic customers
- The green HH hours are considerably more per year than the two rate hours
 - Green hours are 12.5hr/day Mon-Fri plus 21hr/day weekends
 - Off peak hours are generally 7hrs/day
- The off-peak related MPAN has yet another p/kWh
- Although the average revenue for similar customer types in a DNO area may be the same, individual customers will see different costs dependent on their actual usage
- DUoS charges are set on an 'average' basis for the group of customers using the input data to the CDCM model. Only one customer is 'the average'

Impact on micro-generation

- With the current single rate NHH tariff a customer with PV or CHP receive the same benefit from negating import energy – with RAG they would see a different benefit
 - A PV will generate during daylight hours, these are typically A or G charge times
 - A CHP will generate during dark hours during the winter, there are typically R or A charge times
- In promoting CHP the financial benefit of generating during peak demand times is not possible to reflect in the retail charges through the single rate domestic charge
- *(A SToD DUoS charge structure would better reflect the different technologies, but that is a unrelated issue)*
- This may be artificially encouraging PV over CHP microgeneration
- The Settlement profiling of micro-generation is poor, but HH settlement will enable improvement. Currently the export volume settled is small while the remainder impact GCF

Transitional effect

- Current DUoS RAG is not on a seasonal basis
- However, the energy consumed during the winter is typically higher. The average single rate charge reflects the *annual average* of RAG charging
- So any customer (or supplier) moving from single rate charge to HH charging under RAG will incur additional cost if changing in the autumn
- Applying RAG to all customers ensures that revenue is maintained fairly throughout the year. The only difference would be between the profile and the customers actual profile

Distributor revenue

- The forecast of Distributor revenue is based on input data entered into the CDCM
- This forecast data assumes a volume and other characteristics for each tariff type
- If there are differences in the actual consumption by tariff type, then the final revenue will differ
- Consolidating consumption into a fewer number of aggregated tariffs mitigates this risk as all the consumption remains in the single tariff type

DUoS billing current method - NHH

- Meter readings processed by NHHDC & NHHDA
- NHHDA determines an aggregated HH profile for each supplier, GSP group, profile class
- Settlements (generator/supplier billing) is determined using this data
- This HH settlement data is provided in D0030 to Distributors. Since Nov 2015 aggregated HH data is summed by pseudo register (RAG) to enable Distributors to bill
- Distributor billing accommodates the aggregated HH billing. This proposal would utilise this existing capability but for a greater volume.

Benefits

- Makes DUoS charges agnostic of settlement arrangement
- Facilitates innovation in NHH import and export settlement
- Enables simple migration from NHH to HH trading at customer and/or supplier led timing
- Simplifies CDCM – reduces number of tariffs which are all RAG (or BYG)
- Simplifies DUoS billing
- Facilitates innovation in DUoS charge structure (e.g. more time bands) with a consistent and fair application irrespective of settlement

Related issues – relevant to this proposal

- **Impact on DUoS billing**
 - There will be an impact. However, the RAG approach is already being used for the aggregated tariffs
- **NHH Supplier tariffs/metering**
 - Each Suppliers portfolio uses E7 or split E7, SToD tariff structures, etc.
 - These are accommodated by 'chunking' of the profile data
 - This is aggregated in the current NHH DUoS billing which applies day, off-peak or two rate charges
 - The RAG proposal would use this modified profile to determine the DUoS appropriate to the portfolio
- **Each Supplier DUoS costs would differ**
 - Yes – that is an intended consequence
 - Each supplier's mix of ToD tariffs would be reflected in the HH profile (due to chunking) so there would be a variation in the RAG charges
 - This is appropriate to enable a correct reflection of the charges for use of the network
 - This enables the benefit of innovative tariff structures NHH or HH to be reflected in retail tariffs

Related issues – not related to this proposal (1)

- Is the DUoS RAG structure correct?
 - DUoS charges should reflect the costs of using the network, there are lots of ways of achieving it. Whatever approach is agreed can be accommodated using the aggregated HH data so they are not dependent on settlement
- Are the Settlement Profiles correct?
 - They have been used since 1998 to determine the suppliers' payments to generators so if they were massively incorrect they would have been addressed previously. The DUoS impact is small compared with settlement impact. The move to HH settlement will progressively diminish the impact. If there is perceived to be an inaccuracy that supports the transition to HH settlement
- Impact of Group Correction Factor
 - As the proportion of NHH settlement reduces the impact of GCF has a greater impact a smaller number of NHH customers. Elexon have a framework where some error *can* be applied to other customer groups including HH measurement classes

Related issues – not related to this proposal (2)

- Is the TUoS structure correct?
 - Probably not, as it has a different charge structure for NHH & HH. A 'fix' was implemented to negate the effect of P272 until March 2017. But equally needs an enduring resolution
- The industry does not like change?
 - True, but change is continuous and a feature of our industry

Issue

- Ofgem/DECC/CMA wish to move to enable HH settlement for all customers
- CDCM could be simplified by not accommodating the historic NHH charge structures
- Moving to HH settlement DUoS charging will simplify the billing framework and remove any barriers for customers moving between NHH & HH settlement
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Conclusion

- Is there support for this approach?
- What are the issues/barriers stopping taking this forward?
- How to progress?