

Distribution Charging Update for ENA Open Networks Charging Group

Section 1: Background

In the time since the Common Distribution Charging Methodology (CDCM) and the Extra-high Voltage (EHV) Distribution Charging Methodologies (EDCM) were developed, the industry has undergone significant change, most notably in the increase of distributed generation (DG).

The methodologies were developed at a time when distribution networks existed almost exclusively to transfer electricity from the transmission system to demand customers; this is no longer the case with the distribution networks increasingly used to distribute electricity from DG at all network levels to demand customers.

- This increase in DG brings significant challenges to the cost reflectivity of use of system charges.
- Further, the smart meter rollout could transform the electricity industry, with the quality of data available for individual consumers creating potential for use of system charges to be more reflective of a consumer's use of the network.
- The current methodologies are not aligned to these new products.

The high-voltage (HV) and low-voltage (LV) charging methodology (the CDCM) was introduced in April 2010. A separate methodology for EHV designated properties as defined in the licence (the EDCM) was implemented in April 2012 for import supplies and a further enhancement was made from April 2013 to include EHV export.

The EDCM review was completed in November 2015 and concluded with a report being submitted to Ofgem. Following this and through discussions at the Methodologies Issues Group (MIG) in January and February 2016, it was agreed that a wholesale review of the CDCM was required, in part as it has been six years since it was initially implemented.

The EDCM review concentrated on making improvements to the existing methodologies and did not address changes to accommodate future changes to the way the networks are developing. This was therefore taken into account when the CDCM review commenced.

Both reviews had a good cross section of industry parties, DNOs, suppliers, industry experts and Ofgem representatives. Several industry consultations were carried out and feedback accounted for.

Section 2: Reviews Undertaken

EDCM

Following an extensive review a report was submitted to Ofgem in November 2015 with some recommendations to address some of the issues that had been identified these included:

- Remove 'Charge 1' which sets charges based on future reinforcements.
- Consider a single EDCM methodology which is based on Network Use Factors (NUFs).
- Consider a single methodology covering both the CDCM and EDCM.
- Consider using Time of Day (ToD) or Seasonal ToD (SToD) arrangements to reduce the risk of wholesale shifts of demand between periods.

- Further investigation on making the EDCM models available publicly so the end-to-end process is more transparent to customers.

Ofgem response on the EDCM review

Ofgem provided feedback on the EDCM report in particular on the following points, they said that this work was a valuable contribution to the future direction of electricity charging and referenced the following points:

- Future reinforcement cost signals - *any firm proposals for the removal of Charge 1 and its replacement would need to be supported by strong evidence.*
- A single EDCM methodology - *We see merit in streamlining the EDCM. At the time the EDCM was introduced the DNOs did not reach consensus on one method (long run incremental cost (LRIC) based or forward cost pricing (FCP) based pricing).*
- ToD or SToD - *We have been considering similar issues in our forthcoming call for evidence on a smarter, more flexible energy system.*
- Transparency - *We support the desire to make the methodology more transparent but we would need to be confident that it can be done without compromising confidentiality obligations as set out in the Utilities Act 2000 (as amended).*
- A development of a new, all-encompassing methodology, to replace both the EDCM and CDCM - *The current trend towards decentralised energy has highlighted distortions across the charging methodologies across different voltage levels, and there is a strong case to remove these distortions.*

Ofgem concluded that the industry need to take the next steps (either via Distribution Connection and Use of System (DCUSA) changes or further policy discussions) and that the CDCM Review should also reflect these views, where appropriate. The following points need to be considered across both methodologies:

- The views should reflect the Ofgem work with BEIS on a smarter and more flexible energy system.
- Consideration needs to be given to treatment of new technologies (e.g. storage).
- Other charging arrangements: review of embedded generation, allocation of sunk/fixed costs.
- Next steps should include more forward looking focus (e.g. storage, Demand Side Response (DSR), increasing DG and the Distribution System Operator (DSO) role).
- It might be that with a revised methodology, other criteria such as transparency and simplicity could improve to offset the possible loss in cost reflectivity.

CDCM 2016/2017

The initial Stage 1 report was produced in late 2016 and submitted to Ofgem which detailed some key areas to investigate further:

- The costing model which forms the basis of the charges.
- Tariff structures.

- Independent Distribution Network Operator (IDNO) charges and how these should be calculated.
- Future products which includes consideration of storage.
- Combined methodology/model (should the CDCM be combined with the EDCM and Price Control Disaggregation Model (PCDM)?).

Section 3: Progress

As of January 2017 the CDCM and EDCM reviews were brought together. The approach taken with the review has been to consider future developments more fully, for example the growth in DG and its impact on 500MW models.

- Two costing model ideas have been further developed:
 - A new generic 500MW model which considers embedded generation is being developed. This approach builds on the existing approach and retains the forward looking principle of charges and also takes account of future network developments such as increased DG and new technologies such as Electric Vehicle (EV) charging and battery storage.
 - A new costing approach based on asset data held in the Regulatory Reporting Pack (RRP) within a table known as V1. This approach has been extended to model tariffs as totally fixed/capacity based with a possible addition of charging for ancillary services.
- Two tariff structure ideas have been developed:
 - A fixed revenue pot based on allowed income using the Ofgem Price Control Financial Models (PCFM). Preliminary work suggests that fixed/capacity revenue could be in the order of 60% of total DNO revenue.
 - A MWs increment approach has been developed as a further way of determining Red Amber Green prices.

Section 4: Next steps

It is proposed that work will continue to develop some of the costing model and tariff options in more detail and that this work will then be utilised once more direction is received from Ofgem's Co-ordinated Charging Group (CCG).

It is thought that none of these areas can be looked at in isolation as they all interact with each other in some way. It is therefore recommended that this report be considered alongside other industry publications, such as the next steps on the joint Ofgem/BEIS Smart, Flexible Energy System Project; the TCR and Ofgem's Future Thinking

Section 5: Key Questions

The work that the group have done so far has been assessed against the key charging principles, however it is felt that before progressing any further the group need some clear regulatory guidance. The following areas have been identified as needing some further consideration:

- Stakeholders have told us that they value simplicity, transparency and predictability.

- a. **Are the principles used to assess the options appropriate?**
 - b. **How should they be weighted in making such assessments?**
- Given that the industry has undergone significant change, most notably in the increase of DG as we transition to a smarter, flexible energy system.
 - a. **Should there be a move to greater proportion of cost recovery through more fixed/capacity charges?**
 - b. **Should the charging methodologies specifically reflect the costs and benefits of new products?**
- Currently cost recovery involves applying a fixed adder to unit rates which accounts for a significant proportion of total charges.
 - a. **Should changes to the approach to scaling within the models be considered?**
- Currently there are two charging methodologies which result in boundary distortions between the CDCM and EDCM. Additionally, DNOs utilise two approaches within the EDCM (FCP/LRIC) which reduces commonality;
 - a. **Should the CDCM (or any new methodology) be extended to produce charges for all voltage levels?**
 - b. **If not, should the two EDCM methodologies (FCP and LRIC) be rationalised, possibly including the removal of locational reinforcement element of the charge?**
 - c. **Should the CDCM/EDCM boundary be reviewed?**

It is therefore proposed that:

- The C_EDCM report is to be finalised and sign-off agreed at the Distribution Charging Methodology Forum (DCMF) on 6 July 2017 and it is then submitted to Ofgem for their consideration under the CCG.
- Work will continue over the summer on the costing model Options 1A and 1B together with tariff structure application. The aim is to develop a template/prototype that will be submitted to the MIG in September and then fed into the CCG.
- No further work will be conducted until CCG feedback is received.