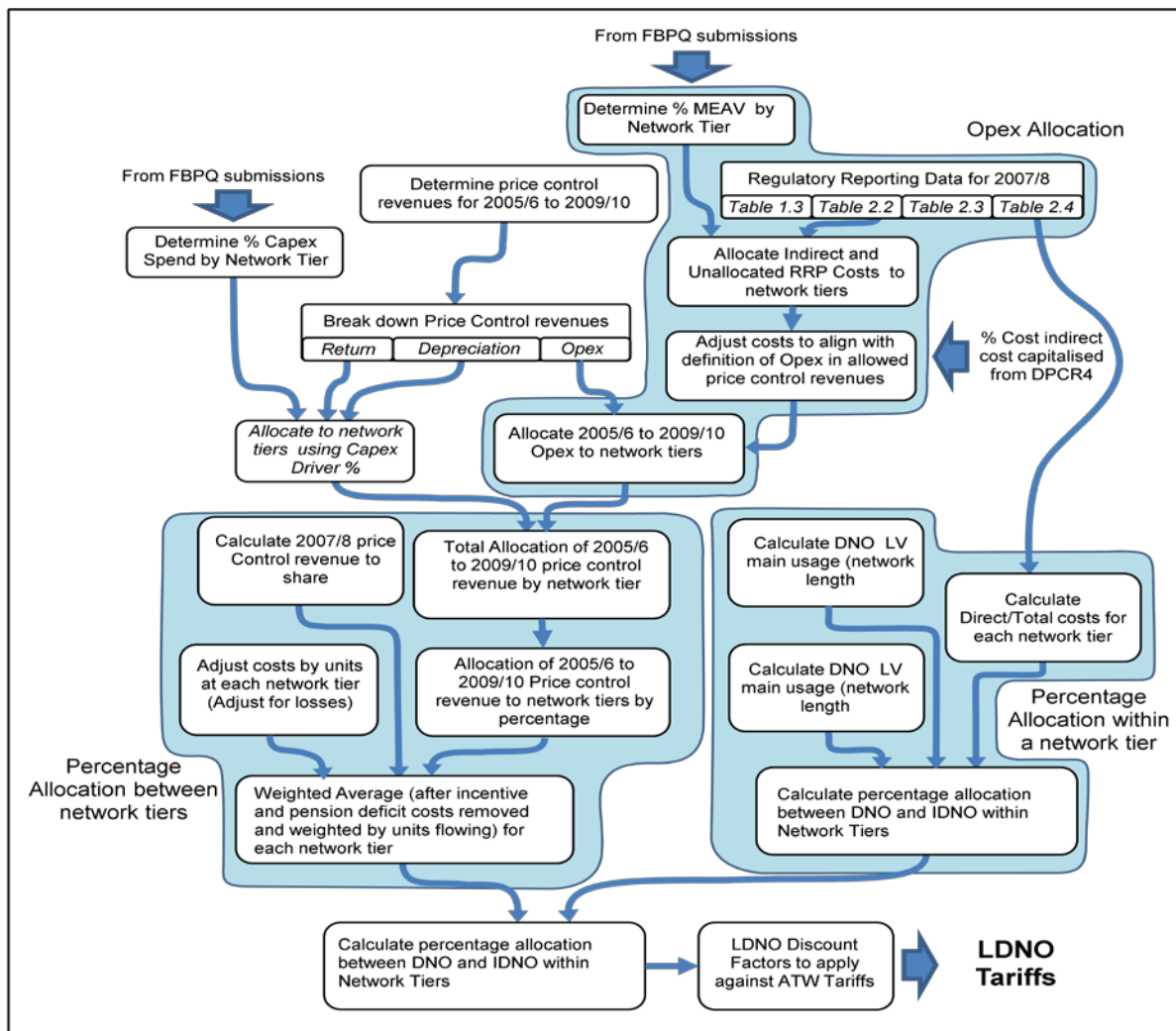


## Appendix G Description of the Price Control Disaggregation Model

Schedule 16 of DCUSA outlines the CDCM methodology to calculate DNOs' use of system tariffs. Steps 1 to 3 of the CDCM describes the DNO's methodology to determine "all the way" tariffs (the tariffs for conveying electricity between the transmission system boundary and the end customer). This requires the DNOs to model a theoretical but representative 500MW increment to their distribution system. DNOs subsequently determine the notional cost of constructing and operating the 500MW increment and apportion these costs to different network tiers and to different classes of customer. Costs are then scaled to help ensure that the revenue recovered by the tariffs match the DNOs' allowed price control.

Step 4 of CDCM describes the DNOs methodology to determine tariffs to licensed distributors whose networks connect to their distribution systems and who thereby provide the last mile of network. LDNO tariffs are determined by applying discount factors to apportion the "all the way" tariffs between the DNO and the downstream LDNO. This model is called the Price Control Disaggregation Model (PCDM) but is more often referred to by its colloquial name of 'Method M'. An overview of the approach is illustrated in figure 1 below.



**Figure 1:- Step 4 of the CDCM (the Price Control Disaggregation Model).** Whereas steps 1 to 3 of the CDCM use a bottom up approach to allocate costs to network tiers and customer classes, the PCDM uses a top down approach to calculate the

discount factors that will be used to determine LDNO tariffs. In summary this can be achieved by:

1. Taking the total price control revenues for the years 2005/6 to 2009/10 and allocating the revenues to Return, Depreciation, and Opex.
2. Apportioning the total price control revenue allocated to Return and Depreciation to different network tiers of the DNO's distribution system. This is calculated using a Capex cost driver based on capital expenditure and customer contributions forecasts for the period 2005/06 to 2014/15, broken down by network tier.
3. Apportioning the total price control revenue allocated to Opex to network tiers using regulatory reporting data for 2007/8. This is calculated by:
  - a. using data from regulatory reporting pack tables 1.3, 2.2, 2.3, and 2.4.
  - b. allocating costs described as indirect or unallocated to network tiers using a Modern Equivalent Asset Value (MEAV) cost driver.
  - c. capitalising an element of these costs to align with the definition of opex in the price control.
  - d. calculating a weighted average percentage for each network tier to allocate the revenue allocated to Opex to network tiers
4. Determining the price control revenue allocated to each network tier by summing the Return, Depreciation, and Opex components. These revenues are subsequently calculated on a pence per kWh basis using units conveyed across each network tier.
5. Calculating a weighted average percentage of the revenues for each network tier and those revenues not to be shared between the DNO and IDNO (e.g. Transmission Exist Charges and incentive revenues). These percentages are used to determine the discount factors. The IDNO discount factor is calculated by the following equation 1:

$$\frac{\left( \text{The sum of the percentages for Network tiers provided by the IDNO to the end user} \right)}{\left( \text{The sum of the percentages for Network tiers that would have been provided by the DNO for an equivalent end user on its network} \right) + \left( \text{Percentage of unallocated DNO Revenue (i.e. not to be shared)} \right)}$$

**Equation 1:- LDNO Discount (prior to removal of the DNO portion of the network tier percentage for network tiers where both the DNO and IDNO provide assets at the same network tier)**

For example, where an IDNO connects at LV, the IDNO is allocated the percentage associated with the LV network tier and the DNO is allocated the percentages for the remaining network tiers. (i.e. "revenue not to be shared", EHV and HV network tiers)

6. The discount factor is further adjusted to account for scenarios where the IDNO connects to the DNO network where both DNO and IDNO provide assets at the same network tier, such as for HV and LV network tier connections. The calculation in equation 1 above is adjusted by:
  - a. Calculating the average percentage split of network (based on network length at the relevant network tier) provided by the DNO and the IDNO.
  - b. Calculating the percentage split of direct to indirect and direct costs for the network tier
  - c. Multiplying the results from (a) and (b) above by the weighted average percentage for the network tier where both DNO and IDNO provide assets and dividing this result by the denominator in equation 1 to give a representation of the DNO's share of that network tier where both the DNO and IDNO provide assets. This method for the allocation of percentages within a network tier is described in more detail in Annex of this Appendix.
  
7. This allocation of percentages within a network tier is subtracted from the result of equation 1 to give the final IDNO discount percentage.

## Annex

### Allocation of Percentages within a Network Tier

Where the connection boundary between the DNO network and the IDNO is within the HV or LV network tier the percentage allocated to that network tier is split by the formula:

$$= \text{Percentage allocation to network tier} \times \left( 1 - \left( \text{Network tier split} \times \text{Network tier direct proportion} \right) \right)$$

Where:

Percentage allocation to network tier	is the percentage of price control revenue allocated to the network tier
Network tier split	is the percentage of network (by network length) deemed to be provided by the upstream DNO for the relevant network tier
Network tier direct proportion	is the percentage calculated from: <hr/>

Where:

direct costs are the directly reported costs in the tables 2.2, 2.3 and 2.4 of the 2007/8 RRP and comprise:

Load related new connections & reinforcement (net of contributions)

Non-load new & replacement assets (net of contributions)

Non-operational capex

Faults

Inspections, & Maintenance

Tree Cutting

And indirect costs are the costs described as indirect in table 1.3 of the 2007/08 RRP with the exception of costs described as "*vehicles and transport*" and "*IT and telecoms*" which the PCDM excludes from this calculation. (For avoidance of doubt costs in table 1.3 described under the heading "*other*" are excluded from the calculation of indirect costs.

In August 2009 the ENA, on behalf DNOs, published The Report on the Draft Common Distribution Charging Methodology<sup>1</sup>. This report was the DNO submission to Ofgem for the CDCM. This proposal was subsequently approved by Ofgem (subject to conditions).

Paragraph 179 of the report states that the Price Control Disaggregation Model:

*“...is based on WPD UoS 012 and is very similar to the cost allocation used in SSEPD’s interim LDNO charging methodology. Both these modifications were the subject of non-veto decisions from Ofgem.”*

Therefore, whilst the report described the steps of PCDM (step 4 of the CDCM) it gave no explicit rationale or justification as to why the approach was cost reflective. For this one has to look at work undertaken as part of WPD’s and SSE’s earlier submissions<sup>2</sup>.

In both of these proposals the percentage of price control revenue allocated to a network tier is shared between the DNO and the downstream IDNO on the following basis:

- Indirect costs are allocated wholly to the downstream LDNO.
- The direct costs are shared between the upstream and downstream network based on the share of network length.

The rationale for this is that indirect costs are fixed whereas direct costs are variable. Network length is considered to be a reasonable proxy for such costs.

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<sup>1</sup> The Report on the Common Distribution Charging Methodology, August 2009, published by the ENA

<sup>2</sup> WPD’s modification proposal (9 April 2009), SSEPD’s modification proposal (27 July 2009) and Ofgem’s decisions (9 June 2009 and 12 August 2009) are available from <http://www.ofgem.gov.uk/Networks/ElecDist/Policy/DistChrgMods/>.