

## DCP 216 EDCM FCP model r6905

Tuesday 26 May 2015

1. This document describes an EDCM/FCP tariff model developed for the DCP 216 working group. The reference version is the April 2015 pre-release model published by the DCUSA Panel in December 2014.

### Structural changes

2. The layout, sheet names and table numbers have changed. Table 1 shows the mapping of items between the reference model and the DCP 216 model.

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
911. FCP power flow modelling data	Unchanged
935. Tariff data	Unchanged
1100. Company, charging year, data version	Unchanged
1105. Diversity allowance between level exit and GSP Group (from CDCM table 2611)	Unchanged
1113. General inputs	Unchanged
1122. Forecast system simultaneous maximum load (kW) from CDCM users (from CDCM table 2506)	Unchanged
1131. Assets in CDCM model (£) (from CDCM table 2706)	Unchanged
1132. Override notional asset rate for 132kV/HV (£/kW)	Unchanged
1133. Maximum network use factor	Unchanged
1134. Minimum network use factor	Unchanged
1135. Loss adjustment factor to transmission for each network level (from CDCM table 2004)	Unchanged
1181. LDNO discounts	Unchanged
1182. CDCM end user tariffs	Unchanged
1183. LDNO volume data	Unchanged
4101. Notional asset rate (£/kW)	2701
4103. Power factor in 500 MW model	2001

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
4105. Loss factor to transmission	2305
4107. Active power equivalent of capacity adjusted to transmission (kW/kVA)	2801
4109. Notional asset rate for 132kV/HV (£/kW)	2703
4111. Notional asset rate adjusted (£/kW)	2705
4113. Capacity 132kV/HV (£/kVA)	2811
4115. Capacity EHV circuits (£/kVA)	2807
4117. Capacity 132kV/EHV (£/kVA)	2805
4119. Capacity EHV/HV (£/kVA)	2809
4121. Capacity 132kV circuits (£/kVA)	2803
4123. Total notional capacity assets (£/kVA)	2813
4125. Maximum import capacity adjusted for part-year (kVA)	2301
4127. Total notional capacity assets (£)	2909
4129. Non-exempt post-2010 export capacity (kVA) adjusted for part-year	2111
4131. Non-exempt 2005-2010 export capacity (kVA) adjusted for part-year	2109
4133. Non-exempt pre-2005 export capacity (kVA) adjusted for part-year	2107
4135. Chargeable export capacity adjusted for part-year (kVA)	2113
4137. Exempt export capacity (kVA) adjusted for part-year	2105
4139. Sole use asset MEAV for demand (£)	2613
4141. Demand sole use asset MEAV adjusted for part-year (£)	2617
4143. Total sole use assets for demand (£)	2907
4145. Super-red kW divided by kVA adjusted for part-year	2303
4147. Peak-time active power consumption adjusted to transmission (kW/kVA)	2307
4149. Consumption EHV circuits (£/kVA)	2819
4151. Consumption 132kV/EHV (£/kVA)	2817
4153. Consumption 132kV circuits (£/kVA)	2815

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
4155. Total notional consumption assets (£/kVA)	2821
4157. Total notional consumption assets (£)	2911
4159. Sole use asset MEAV for non-exempt generation (£)	2615
4161. Generation sole use asset MEAV adjusted for part-year (£)	2619
4163. Generation sole use asset MEAV adjusted for part-year (£) (aggregate)	2913
4165. All notional assets in EDCM (£)	2915
4201. Non-DSM import capacity adjusted for part-year (kVA)	3401
4203. Location	2115
4205. Parent location	2117
4207. Grandparent location	2119
4209. Grandparent group maximum demand (kVA)	3409
4211. Grandparent group reactive factor, maximum demand (kVAr/kVA)	3411
4213. Grandparent group power factor, maximum demand (kW/kVA)	3415
4215. Unadjusted but capped red kVAr/agreed kVA	3403
4217. Parent location charge 1 £/kVA/year	2123
4219. Parent group maximum demand (kVA)	3405
4221. Parent group reactive factor, maximum demand (kVAr/kVA)	3407
4223. Parent group power factor, maximum demand (kW/kVA)	3413
4225. Grandparent location charge 1 £/kVA/year	2125
4227. Super-red rate p/kWh	3421
4229. Super-red unit rate adjusted for DSM (p/kWh)	3425
4231. Location charge 1 £/kVA/year	2121
4233. Import capacity charge p/kVA/day	3419
4235. Import demand charge p/kVA/day	3417
4237. FCP capacity charge p/kVA/day	3423

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
4239. Import capacity charge from charge 1 (p/kVA/day)	3427
4301. Total EDCM peak time consumption (kW)	2403
4303. EHV operating expenditure intensity	2003
4305. HV and LV service asset levels	2013
4307. HV and LV service assets in CDCM model (£)	2905
4309. EHV asset levels	2009
4311. EHV assets in CDCM model (£)	2901
4313. HV and LV network asset levels	2011
4315. HV and LV network assets in CDCM model (£)	2903
4317. Indirect cost charging rate	3005
4319. Total demand sole use assets qualifying for DCP 189 discount (£)	3203
4321. Network rates charging rate	3003
4323. Capacity eligible for GSP generation credits (kW) adjusted for part-year	2601
4325. Total CDCM peak time consumption (kW)	2401
4327. Estimated total peak-time consumption (kW)	2405
4329. Transmission exit charging rate (£/kW/year)	2501
4331. Generation credit (unrounded) p/kVA/day	2603
4333. Has export charges?	2103
4335. Chargeable export capacity adjusted for part-year (kVA) (total)	2201
4337. Non-exempt post-2010 export capacity (kVA) adjusted for part-year (total)	2205
4339. Non-exempt 2005-2010 export capacity (kVA) adjusted for part-year (total)	2203
4341. Export capacity charge p/kVA/day	2207
4343. Export capacity charge (unrounded) p/kVA/day	2605
4345. Net export capacity charge (or credit) (unrounded) (p/kVA/day)	2609
4347. Export capacity rate (p/kVA/day)	2611

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
4349. Direct cost charging rate	3001
4351. Generation fixed charge p/day (scaled for part year)	3105
4353. Generation credit (before exempt adjustment) p/kWh	2127
4355. Generation credit (unrounded) p/kWh	2129
4357. Export super-red unit rate (p/kWh)	2131
4359. Net forecast EDCM generation revenue (£/year)	3201
4361. Revenue less costs and adjustments (£/year)	3205
4363. Other revenue charging rate	3301
4365. Demand revenue target pot (£/year)	3507
4401. Direct costs on EDCM demand except through sole use asset charges (£/year)	3503
4403. Indirect costs on EDCM demand (£/year)	3501
4405. Number of super-red hours connected in year	3429
4407. Revenue from demand charge 1 (£/year)	3509
4409. Additional amount to be recovered (£/year)	3511
4411. Network rates on EDCM demand except through sole use asset charges (£/year)	3505
4413. Proportion of residual to go into fixed adder	2005
4415. Residual residual (£/year)	3513
4417. Network use factors (second set)	3601
4419. Capacity 132kV/HV (£/kVA)	3611
4421. Capacity EHV circuits (£/kVA)	3607
4423. Capacity 132kV/EHV (£/kVA)	3605
4425. Capacity EHV/HV (£/kVA)	3609
4427. Capacity 132kV circuits (£/kVA)	3603
4429. Second set of capacity assets (£/kVA)	3613

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
4431. Consumption EHV circuits (£/kVA)	3619
4433. Consumption 132kV/EHV (£/kVA)	3617
4435. Consumption 132kV circuits (£/kVA)	3615
4437. Second set of consumption assets (£/kVA)	3621
4439. Non sole use notional assets subject to matching (£)	3629
4441. Total non sole use notional assets subject to matching (£)	3703
4443. Annual charge on assets	3801
4445. Amount to be recovered from adders ex costs (£/year)	3701
4447. Factor for the allocation of capacity scaling	2007
4449. Marginal revenue effect of demand and indirect cost adders	3901
4451. Total marginal revenue effect of demand adder	4201
4453. Fixed adder ex indirects application rate	4301
4455. Data for capacity-based allocation of indirect costs	3903
4457. Total marginal effect of indirect cost adder	4001
4459. Indirect costs application rate	4101
4461. Capacity charge p/kVA/day (exit only)	3623
4463. Import capacity charge before scaling (p/kVA/day)	3627
4465. Capacity charge after applying indirect cost charge p/kVA/day	4401
4467. Capacity charge after applying fixed adder ex indirects p/kVA/day	4403
4469. Demand scaling p/kVA/day	4405
4471. Total import capacity charge p/kVA/day	4407
4473. Has import charges?	3101
4475. Super-red rate p/kWh	4409
4477. Import capacity charge p/kVA/day	4411
4479. Demand fixed charge p/day	3103

**Table 1 Mapping of items between the reference model and the DCP 216 model**

<i>Table in reference model</i>	<i>New number</i>
4481. Adjustment to exceeded import capacity charge for DSM (p/kVA/day)	3625
4483. Exceeded import capacity charge (p/kVA/day)	4413
4485. Export capacity charge (p/kVA/day)	2607
4487. Export fixed charge (unrounded) p/day	3107
4489. Export fixed charge p/day	3109
4501. EDCM charge	4501–4509
4601. Horizontal information	4601–4632
4602. Total for all tariffs (£/year)	6101
6001. Applicable discount for each tariff	Unchanged
6002. LDNO discounted CDCM tariffs	Unchanged
6003. Net revenue from discounted LDNO tariffs (£/year)	Unchanged
6004. Total net revenue from discounted LDNO tariffs (£/year)	Unchanged
6005. LDNO discounted CDCM tariffs (reordered)	Unchanged
6101. Total EDCM revenue (£/year)	6102

**Changes to calculations**

3. In table 6002, a ROUND function has been added to the formula so that CDCM discounted tariffs for LDNOs are rounded to three decimal places for active and reactive power unit rates, and to two decimal places for other tariff components. In the reference version this rounding was performed through number formatting.
4. All other calculations have only been amended to the extent necessary to adapt to the structural changes in the model.

**Changes to input data**

5. Network group names and tariff names which are numerical are aligned to the right. There are no other changes to input data.

### **Changes to outputs**

6. For CDCM discounted tariffs for LDNOs, the results are rounded through Microsoft Excel formulas, rather than through number formatting, so that copy/paste as value can now be used to transfer the rounded tariffs to another workbook.