

DCP 216 EDCM LRIC model r6903

Tuesday 26 May 2015

1. This document describes an EDCM/LRIC 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>
913. LRIC 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
4102. Notional asset rate (£/kW)	2702
4104. Power factor in 500 MW model	2002

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

<i>Table in reference model</i>	<i>New number</i>
4106. Loss factor to transmission	2306
4108. Active power equivalent of capacity adjusted to transmission (kW/kVA)	2802
4110. Notional asset rate for 132kV/HV (£/kW)	2704
4112. Notional asset rate adjusted (£/kW)	2706
4114. Capacity 132kV/HV (£/kVA)	2812
4116. Capacity EHV circuits (£/kVA)	2808
4118. Capacity 132kV/EHV (£/kVA)	2806
4120. Capacity EHV/HV (£/kVA)	2810
4122. Capacity 132kV circuits (£/kVA)	2804
4124. Total notional capacity assets (£/kVA)	2814
4126. Maximum import capacity adjusted for part-year (kVA)	2302
4128. Total notional capacity assets (£)	2910
4130. Non-exempt post-2010 export capacity (kVA) adjusted for part-year	2112
4132. Non-exempt 2005-2010 export capacity (kVA) adjusted for part-year	2110
4134. Non-exempt pre-2005 export capacity (kVA) adjusted for part-year	2108
4136. Chargeable export capacity adjusted for part-year (kVA)	2114
4138. Exempt export capacity (kVA) adjusted for part-year	2106
4140. Sole use asset MEAV for demand (£)	2614
4142. Demand sole use asset MEAV adjusted for part-year (£)	2618
4144. Total sole use assets for demand (£)	2908
4146. Super-red kW divided by kVA adjusted for part-year	2304
4148. Peak-time active power consumption adjusted to transmission (kW/kVA)	2308
4150. Consumption EHV circuits (£/kVA)	2820
4152. Consumption 132kV/EHV (£/kVA)	2818
4154. Consumption 132kV circuits (£/kVA)	2816

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

<i>Table in reference model</i>	<i>New number</i>
4156. Total notional consumption assets (£/kVA)	2822
4158. Total notional consumption assets (£)	2912
4160. Sole use asset MEAV for non-exempt generation (£)	2616
4162. Generation sole use asset MEAV adjusted for part-year (£)	2620
4164. Generation sole use asset MEAV adjusted for part-year (£) (aggregate)	2914
4166. All notional assets in EDCM (£)	2916
4202. Non-DSM import capacity adjusted for part-year (kVA)	3402
4204. Location	2116
4206. Linked location 1	2118
4208. Linked location 2	2120
4210. Linked location 3	2122
4212. Linked location 4	2124
4214. Linked location 5	2126
4216. Linked location 6	2128
4218. Linked location 7	2130
4220. Total active power in maximum demand scenario (kW)	3404
4222. Inverse power factor, maximum demand (kVA/kW)	3406
4224. Maximum demand run kVA at Linked location 2	2168
4226. Network charge 1 £/kVA/year at Linked location 5	2158
4228. Network charge 1 £/kVA/year at Linked location 3	2154
4230. Network charge 1 £/kVA/year at Linked location 4	2156
4232. Maximum demand run kVA at Linked location 6	2176
4234. Maximum demand run kVA at Linked location 3	2170
4236. Network charge 1 £/kVA/year at Linked location 7	2162
4238. Maximum demand run kVA at Linked location 5	2174

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

<i>Table in reference model</i>	<i>New number</i>
4240. Network charge 1 £/kVA/year at Location	2148
4242. Maximum demand run kVA at Linked location 4	2172
4244. Maximum demand run kVA at Linked location 1	2166
4246. Network charge 1 £/kVA/year at Linked location 1	2150
4248. Network charge 1 £/kVA/year at Linked location 6	2160
4250. Maximum demand run kVA at Linked location 7	2178
4252. Maximum demand run kVA at Location	2164
4254. Network charge 1 £/kVA/year at Linked location 2	2152
4256. Average network charge 1 (£/kVA/year)	2182
4258. Super-red rate p/kWh	3410
4260. Super-red unit rate adjusted for DSM (p/kWh)	3412
4262. Local charge 1 £/kVA/year at Linked location 5	2142
4264. Local charge 1 £/kVA/year at Linked location 3	2138
4266. Local charge 1 £/kVA/year at Linked location 4	2140
4268. Local charge 1 £/kVA/year at Linked location 7	2146
4270. Local charge 1 £/kVA/year at Location	2132
4272. Local charge 1 £/kVA/year at Linked location 1	2134
4274. Local charge 1 £/kVA/year at Linked location 6	2144
4276. Local charge 1 £/kVA/year at Linked location 2	2136
4278. Average local charge 1 (£/kVA/year)	2180
4280. Import capacity charge p/kVA/day	3408
4282. Import capacity charge from charge 1 (p/kVA/day)	3414
4302. Total EDCM peak time consumption (kW)	2404
4304. EHV operating expenditure intensity	2004
4306. HV and LV service asset levels	2014

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

<i>Table in reference model</i>	<i>New number</i>
4308. HV and LV service assets in CDCM model (£)	2906
4310. EHV asset levels	2010
4312. EHV assets in CDCM model (£)	2902
4314. HV and LV network asset levels	2012
4316. HV and LV network assets in CDCM model (£)	2904
4318. Indirect cost charging rate	3006
4320. Total demand sole use assets qualifying for DCP 189 discount (£)	3204
4322. Network rates charging rate	3004
4324. Capacity eligible for GSP generation credits (kW) adjusted for part-year	2602
4326. Total CDCM peak time consumption (kW)	2402
4328. Estimated total peak-time consumption (kW)	2406
4330. Transmission exit charging rate (£/kW/year)	2502
4332. Generation credit (unrounded) p/kVA/day	2604
4334. Has export charges?	2104
4336. Chargeable export capacity adjusted for part-year (kVA) (total)	2202
4338. Non-exempt post-2010 export capacity (kVA) adjusted for part-year (total)	2206
4340. Non-exempt 2005-2010 export capacity (kVA) adjusted for part-year (total)	2204
4342. Export capacity charge p/kVA/day	2208
4344. Export capacity charge (unrounded) p/kVA/day	2606
4346. Net export capacity charge (or credit) (unrounded) (p/kVA/day)	2610
4348. Export capacity rate (p/kVA/day)	2612
4350. Direct cost charging rate	3002
4352. Generation fixed charge p/day (scaled for part year)	3106
4354. Generation credit (before exempt adjustment) p/kWh	2184
4356. Generation credit (unrounded) p/kWh	2186

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

<i>Table in reference model</i>	<i>New number</i>
4358. Export super-red unit rate (p/kWh)	2188
4360. Net forecast EDCM generation revenue (£/year)	3202
4362. Revenue less costs and adjustments (£/year)	3206
4364. Other revenue charging rate	3302
4366. Demand revenue target pot (£/year)	3508
4402. Direct costs on EDCM demand except through sole use asset charges (£/year)	3504
4404. Indirect costs on EDCM demand (£/year)	3502
4406. Number of super-red hours connected in year	3416
4408. Revenue from demand charge 1 (£/year)	3510
4410. Additional amount to be recovered (£/year)	3512
4412. Network rates on EDCM demand except through sole use asset charges (£/year)	3506
4414. Proportion of residual to go into fixed adder	2006
4416. Residual residual (£/year)	3514
4418. Network use factors (second set)	3602
4420. Capacity 132kV/HV (£/kVA)	3612
4422. Capacity EHV circuits (£/kVA)	3608
4424. Capacity 132kV/EHV (£/kVA)	3606
4426. Capacity EHV/HV (£/kVA)	3610
4428. Capacity 132kV circuits (£/kVA)	3604
4430. Second set of capacity assets (£/kVA)	3614
4432. Consumption EHV circuits (£/kVA)	3620
4434. Consumption 132kV/EHV (£/kVA)	3618
4436. Consumption 132kV circuits (£/kVA)	3616
4438. Second set of consumption assets (£/kVA)	3622

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

<i>Table in reference model</i>	<i>New number</i>
4440. Non sole use notional assets subject to matching (£)	3632
4442. Total non sole use notional assets subject to matching (£)	3704
4444. Annual charge on assets	3802
4446. Amount to be recovered from adders ex costs (£/year)	3702
4448. Factor for the allocation of capacity scaling	2008
4450. Marginal revenue effect of demand and indirect cost adders	3902
4452. Total marginal revenue effect of demand adder	4202
4454. Fixed adder ex indirects application rate	4302
4456. Data for capacity-based allocation of indirect costs	3904
4458. Total marginal effect of indirect cost adder	4002
4460. Indirect costs application rate	4102
4462. Capacity charge p/kVA/day (exit only)	3626
4464. Import capacity charge before scaling (p/kVA/day)	3630
4466. Capacity charge after applying indirect cost charge p/kVA/day	4402
4468. Capacity charge after applying fixed adder ex indirects p/kVA/day	4404
4470. Demand scaling p/kVA/day	4406
4472. Total import capacity charge p/kVA/day	4408
4474. Has import charges?	3102
4476. Import demand charge p/kVA/day	3624
4478. Super-red rate p/kWh	4410
4480. Import capacity charge p/kVA/day	4412
4482. Demand fixed charge p/day	3104
4484. Adjustment to exceeded import capacity charge for DSM (p/kVA/day)	3628
4486. Exceeded import capacity charge (p/kVA/day)	4414
4488. Export capacity charge (p/kVA/day)	2608

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

<i>Table in reference model</i>	<i>New number</i>
4490. Export fixed charge (unrounded) p/day	3108
4492. Export fixed charge p/day	3110
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.