

## DCP 150 Legal Drafting

### Schedule 16 (changes in red):

#### Network model asset values

16. The DNO Party specifies a network model, also known as a distribution reinforcement model (DRM) or a 500 MW model, in line with the requirements of this section.
17. In all cases, the network model determines the £/kW/year figure (based on simultaneous maximum load at each network level) corresponding to amortisation and return on capital for assets at the LV circuits, HV/LV and HV network levels.
18. For DNO Parties that do not rely on a separate EHV charging methodology, the network model also determines these costs at the EHV/HV and EHV network levels, and, in England and Wales, at the 132kV/EHV and 132kV network levels.
19. The network model consists of a costed design for an increment to the DNO Party's network.
20. At each network level, the model is sized to provide secure capacity to meet demand that, aggregated up to individual grid supply point (GSP) level, amounts to 500 MW of simultaneous maximum demand.
21. The model's design assumes a power factor of 0.95 and no embedded generation.
22. The assets included in the network model are modern equivalent assets of the kind that the DNO Party would normally install on new networks.
23. The nature, quantity and size of assets in the model is such as to meet demand and security to the DNO Party's design and planning standards, allowing for the use of standard size equipment and typical utilisation factors.
24. The proportion of assets of different types at each network level, e.g. overhead and underground circuits, reflects the mix of users and the topography in the DNO Party's Distribution Services Area.

25. The cost assumed for each asset type reflect total purchase and installation cost in the charging year, using the DNO Party's normal procurement methods.

#### Diversity allowances

26. For each of the 132kV (except in Scotland), EHV and HV voltage levels, the DNO Party determines a diversity allowance between the transformation level above circuits at that voltage and the transformation level below circuits at that voltage.
27. Each diversity allowance represents the extent, expressed as a percentage, to which the sum of the maximum load across all substations below would exceed the corresponding sum for substations above.
28. The DNO Party also determines a diversity allowance between the GSP Group as a whole and the individual grid supply points.

*28A. The DNO Party may only change diversity allowances with effect from 1 April and must provide a minimum of 15 months prior notice of such changes.*

#### Customer contributions under current connection charging policy

29. The DNO Party estimates the extent to which the assets at each network level used by each category of users would have been expected to be covered by customer contributions if they had been constructed under the charging year's connection charging policy.
30. The DNO Party groups users into categories, by network level of supply, for the purpose of making these estimates.
31. In the case of generators, the proportions relate to the notional assets whose construction or expansion might be avoided due to the generator's offsetting of demand on the network, and takes the same values as for a demand user at the same network level of supply.

#### Service model asset values

32. The DNO Party specifies a set of service models covering the range of typical dedicated assets operated for the benefit of individual HV and LV users of the network.
33. For each service model, the DNO Party estimates the number and types of connections that the model covers, and a total construction cost for the assets in the model.
34. For each tariff, the DNO Party identifies the extent to which each of the service models represents the relevant assets for an average user in that tariff.
35. A weighted average of service models is used if several service models apply to the same tariff.
36. In the case of unmetered supplies, service model assets are modelled on the basis of units delivered.
37. In the case of generation service models, the service models should reflect the additional costs of protection equipment for a typical generator in each category, for example the difference in cost between a fuse and a circuit breaker, or the cost of additional telecommunications equipment used for control purposes.

#### Transmission exit expenditure

38. The DNO Party prepares a forecast of expenditure on transmission exit charges in the charging year.

#### Other expenditure

39. The DNO Party prepares a forecast of other expenditure for the charging year, where other expenditure is defined as the sum of:
  - a) 100 per cent of direct operating costs.
  - b) 60 per cent of indirect costs (as defined in RRP guidance).
  - c) 100 per cent of network rates.

#### Distribution time bands

40. The DNO Party determines three distribution time bands, labelled red, amber and green.

41. Distribution time bands are defined separately for Monday-Friday and for Saturday/Sunday. In each case, time bands are defined by reference to UK clock time only, and always begin and end on the hour or half hour. Each time band may be divided into any number of sections.

#### Load characteristics

42. The DNO Party estimates the following load characteristics for each category of demand users:

- a) A load factor, defined as the average load of a user group over the year, relative to the maximum load level of that user group. Load factors are numbers between 0 and 1.
- b) A coincidence factor, defined as the expectation value of the load of a user group at the time of system simultaneous maximum load, relative to the maximum load level of that user group. Coincidence factors are numbers between 0 and 1.
- c) In the case of multi-rate tariffs that are applied to non-half-hourly meter data or to fixed time bands that differ from the distribution time bands (if any), the estimated proportion of units recorded in each relevant time pattern regime that fall within each distribution time band.

43. In determining the load characteristics of each category of demand user the DNO Party will use reasonable endeavours to analyse meter and profiling data received for the most recent 3 year period for which data are available in time for use in the calculation of charges. The three elements of load characteristics – Load Factors, Coincidence Factors, and the estimated proportion of units recorded in each relevant time pattern regime that fall within each distribution time band – will be calculated individually for each of the 3 years and a simple arithmetic average will be calculated to be used in tariff setting.

44. For load factors and coincidence factors in the case of non half hourly settled customer classes, data adjusted for GSP Group correction factor are used.

45. For the estimated proportion of units recorded in each relevant time pattern regime that fall within each distribution time band, data are not adjusted for GSP Group correction factors.
46. Settlement data for non half hourly unmetered supplies are not used to determine load characteristics. Instead, the load factor and coincidence factor for this user class are set equal to the figures for pseudo half hourly LV unmetered supplies, if any. If no data are available for pseudo half hourly LV unmetered supplies in the relevant area, data for pseudo half hourly LV unmetered supplies from another area are used as a proxy.

#### Loss adjustment factors to transmission

47. For each network level, the DNO Party determines a single loss adjustment factor to transmission relating to Exit Points from its network at that level. These loss adjustment factors should be representative of average losses at the time of system simultaneous maximum load.

#### Peaking probabilities

48. The DNO Party determines a peaking probability in respect of each network level and each of the distribution time bands.
49. The peaking probability represents the probability that an asset at that network level would experience maximum load during that distribution time band. In deriving peaking probabilities the DNO Party will use reasonable endeavours to use the most recent 3 year period for which information is available in time for use in the calculation of charges. Peaking probabilities will be derived individually for each of the 3 years and a simple arithmetic average will be calculated to be used in tariff setting.

#### Power factor data

50. The DNO Party determines or estimates, for each network level, the average of the ratio of reactive power flows (kVAr) to network capacity (kVA), weighted by reactive power flow.

51. If data are not available for any network level, the DNO Party uses data for the nearest network level at which they are available.

#### Volume forecasts

52. The DNO Party forecasts the volume chargeable to each tariff component under each tariff for the charging year.

53. The volume forecasts for portfolio tariffs are multiplied by the LDNO discount percentages determined in Step 4, and combined with the all-the-way volume forecasts for each end user type. These combined volume forecasts are used throughout Steps 2 and 3 of the methodology.

#### Forecast of price control allowed revenues

54. The DNO Party prepares a forecast of allowed revenue for the charging year in accordance with the requirements of the price control conditions and in a manner which is consistent with its volume forecasts.

54A. The DNO Party may only change the values in the following CDCM input tables with effect from 1 April and must provide a minimum of 15 months prior notice of such changes.

- 1018 - Proportion of relevant load going through 132kV/HV direct transformation
- 1019 - Network model GSP peak demand (MWh)
- 1025 - Matrix of applicability of LV service models to tariffs with fixed charges
- 1026 - matrix of applicability of LV service models to unmetered tariffs
- 1028 - Matrix of applicability of HV service models to tariffs with fixed charges
- 1092 – Average kVAr by kVA, by network level