DCP 167A Legal Text

Additional example(s) for the Common Connection Charging Methodology to illustrate 'remote reinforcement' and 'network reconfiguration'

Amend paragraph 1.13 of Schedule 22 (CCCM) as follows:

1.13 Work required to reconfigure the Distribution System to meet your requirements where no additional Network or Fault Level Capacity is made available shall be charged in full to you. See Example 8~~B~~D.

Amend "Worked Examples Illustrating the Application of the Connection Charging Methodology" that follows paragraph 1.60 of Schedule 22 (CCCM) as follows:

The following Examples are to illustrate the application of the Connection Charging Methodology and are not intended to provide an accurate estimate of the charges which a person would become liable in respect of the provision of a connection. The Examples do not necessarily represent the Minimum Scheme for a specific connection application.

The figures quoted in the Examples are illustrative. Section [7] of this statement provides our charges and indicative costs to undertake various activities.

The Examples illustrate where we undertake both the Contestable and Non-Contestable Work. These costs will include the determination of the POC and assessment and design costs, though these may not be explicitly identified in the Examples.

Where Contestable Work is undertaken by an ICP, we will apply CIC Charges for services associated with the Contestable Works which would cover activities including design approval, inspection and monitoring. The CIC Charges shown in the Examples are for illustration only. For the avoidance of doubt, in each Example, where an ICP undertakes the Contestable Work, our Connection Charge will include the cost of the Non-Contestable Work and the CIC Charges but exclude the cost of Contestable Work.

The Examples are generic and standard for all LDNOs, but they do not represent the network analysis and subsequent design solutions that would be completed for an actual connection scheme. The actual designs are subject to our design polices.

Insert a new Example 8C (following Example 8B) in Schedule 22 (CCCM) as follows:

Example 8C: Connection of housing development with remote network Reinforcement

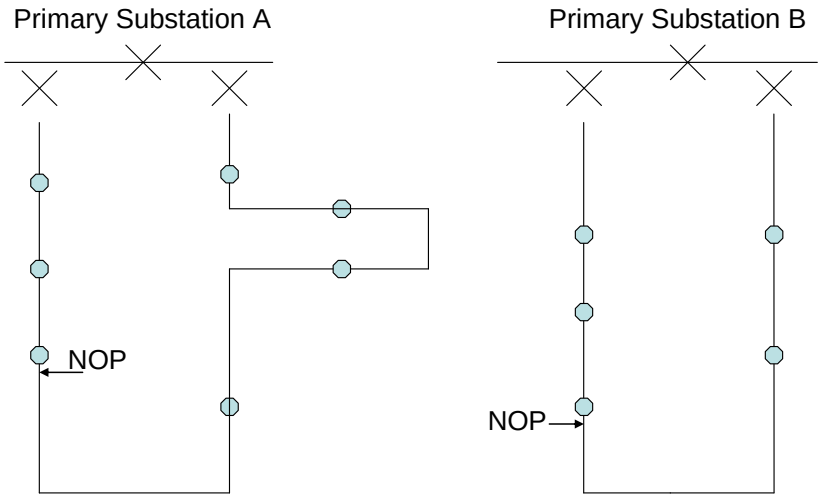
This further variation shows the arrangements that will apply where it is necessary to reinforce a different part of the Distribution System so that existing demand may be transferred in order to release capacity for the new connection.

A new housing development has a Required Capacity of 2MVA to serve 900 plots. The local 11kV feeder has a network capacity of 7.7MVA based upon the limitation of the existing 400 Amp circuit breakers at Primary Substation A. The existing load on the circuit is 7.6MVA. It is therefore not possible to connect the new load to this circuit without Reinforcement works.

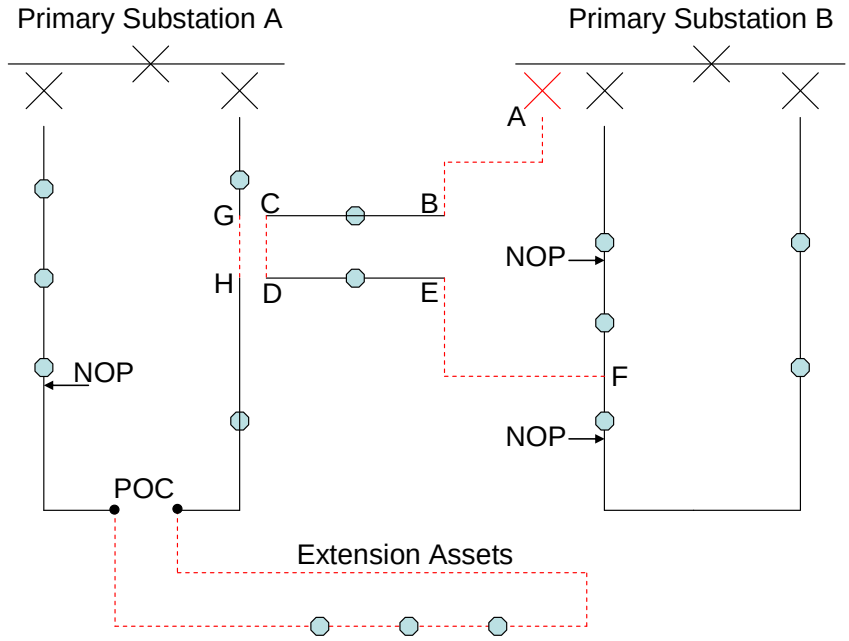
It is proposed to reinforce an adjacent network so that two existing substations may be transferred on to it, in order to release capacity so that the new connections can be made. Primary Substation B has sufficient spare capacity to accommodate the two existing substations. A new circuit breaker is to be installed at Primary Substation B and a new 11kV feeder (also rated at 7.7MVA) is to be installed between points A – B and between points E – F for connection to the local 11kV circuit at point F. The existing circuit will be cut at point BE so that the new joints can be made. This will convert the Primary Substation B network from a two-feeder to a three-feeder network. The total new cable length between points A – B and points E - F is 500m. The network will be reconfigured by the installation of two short straps C – D and G - H in order to maintain connectivity.

This Reinforcement will allow a POC to be taken from the local 11kV circuit to supply the new development. The newly installed cable to connect the development from the POC is 1200m long. Three 800kVA distribution substations are to be established onsite. The above work represents the Minimum Scheme to provide connections to the new site.

Original network:



Proposed network:



3 x 800kVA substations for
New housing development

Reinforcement:

The RSN for the Reinforcement

For the Reinforcement CAF the RSN is considered to be the three-feeder 11kV network comprising the two original feeders from Primary Substation B and the new feeder from Primary Substation B, as this new feeder is capable of feeding either of the existing circuits. The numerator in the CAF calculation is based upon the Required Capacity of the new development, i.e. 2MVA. In this case, the New Network Capacity (under N-1 conditions) following the Reinforcement works is equal to (3 – 1) x 7.7MVA = 15.4MVA

Fault Level CAF calculation: This Scheme does not have any significant Fault Level contribution to the existing shared use distribution network and Fault Level CAF is therefore not applicable here.

The Connection Charge for this Scheme is calculated as follows:

Reinforcement:

	Cost	Apportionment	Customer Contribution
Non Contestable Work			
500m of 11kV cable: A-B, C-D, E-F	£50,000	2/15.4 x 100% = 13%	£6,500
11kV Circuit Breaker at Primary Substation B	£45,000	As above	£5,844
11kV jointing at Points A,B,C,D,E,F	£10,000	As above	£1,300
Total reinforcement cost	£105,000		£13,644

Extension Assets:

	Cost	Apportionment	Customer Contribution
Contestable Work			
1200m of 11kV cable inc. strap at G - H	£120,000	n/a	£120,000
3 by 800kVA distribution substations	£150,000	n/a	£150,000
On site LV mains and services	£330,000	n/a	£330,000
Non Contestable Work			
4 by 11kV closing joints at POC and at points G,H	£10,000	n/a	£10,000
Total extension asset cost	£610,000		£610,000
CiC charges			£3,500

Insert a new Example 8D (following Example 8C above) in Schedule 22 (CCCM) as follows:

Example 8D: Connection of housing development with load transfer

An additional variation shows the arrangements that will apply where it is necessary to reconfigure the Distribution System so that existing demand may be transferred in order to release capacity for the new connection.

A new housing development has a Required Capacity of 2MVA to serve 900 plots. The local 11kV feeder has a network capacity of 7.7MVA based upon the limitation of the existing 400 Amp circuit breakers at Primary Substation A. The existing load on the circuit is 7.6MVA. It is therefore not possible to connect the new load to this circuit as presently configured.

It is proposed to reconfigure the Distribution System such that two existing substations may be transferred on to an adjacent network, in order to release capacity so that the new connections can be made. Primary Substation B has sufficient spare capacity to accommodate the two existing substations. New cables are to be installed between points A – B and between points E – F. The existing circuit will be cut at point BE so that the new joints can be made. The total new cable length between points A – B and points E - F is 100m. The network will be reconfigured by the installation of two short straps C – D and G - H in order to maintain connectivity.

This transfer of existing demand (which can effectively be considered as a form of reinforcement since the capacity was not originally available in order to accept the new load connection) will allow a POC to be taken from the local 11kV circuit to supply the new development. The newly installed cable to connect the development from the POC is 1200m long. Three 800kVA distribution substations are to be established onsite. The above work represents the Minimum Scheme to provide connections to the new site.

It is of note that:

1 Capacity is created on the relevant section of network – otherwise the new load could not be connected.

2 The transfer of load to Primary Substation B will facilitate the new connection to the network connected to Primary Substation A.

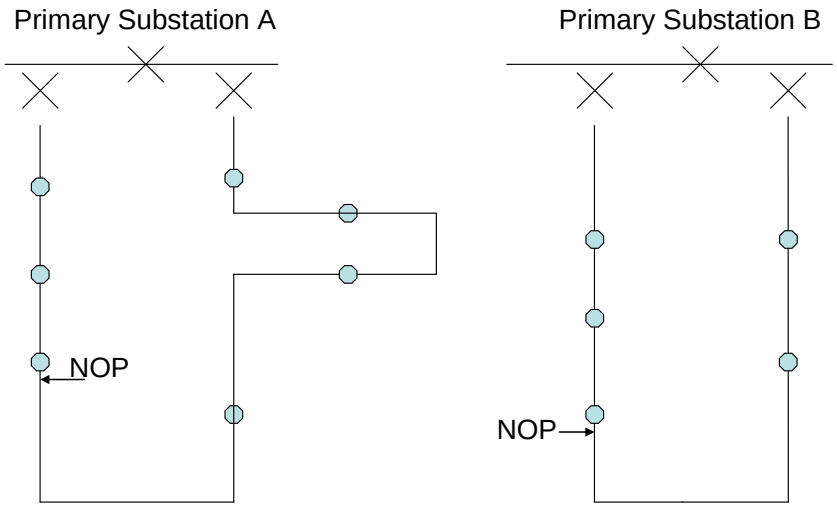
3 The transfer of load to Primary Substation B will be at least the minimum to facilitate the new connection and (depending on immediate and future network requirements) could be more than the minimum load required to facilitate the immediate requirements.

4 The approach outlined in this Example 8D ensures that applicants will only be required to fund the apportioned costs associated with reinforcement to facilitate the connection of the new load. Conversely, applicants will not be required to fund potentially unlimited reinforcement costs.

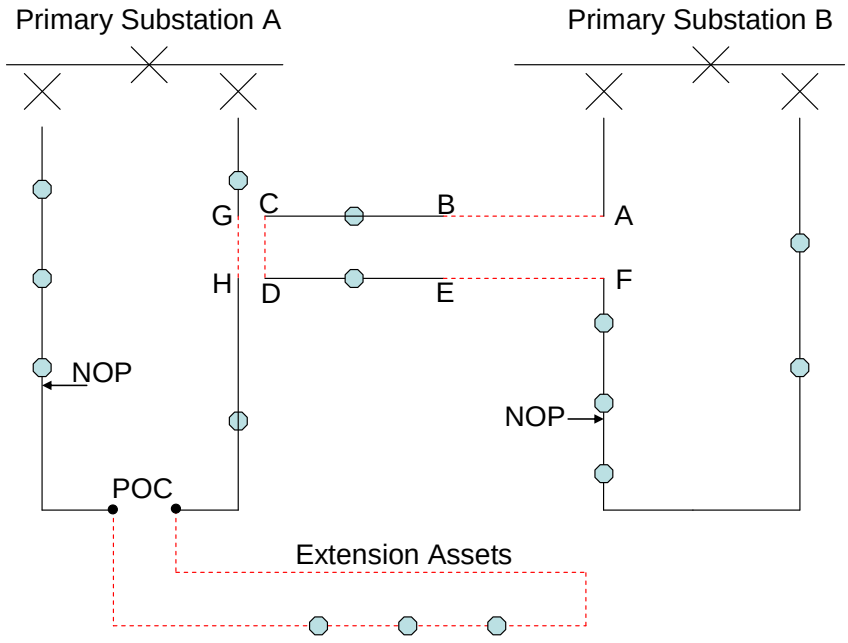
5 Had the minimum scheme be considered to be reinforcement of the network from Primary Substation A, there would be no doubt that the costs of that reinforcement would be treated under the CAF Rules. Hence the approach outlined in this Example 8D provides a consistency of approach.

6 The denominator in the CAF calculation will remain the ‘capacity of the network following reinforcement’.

Original network:



Proposed network:



3 x 800kVA substations for
New housing development

Reinforcement:

The RSN for the Reinforcement

For the Reinforcement CAF the RSN is considered to be the two feeder 11kV network comprising the two original feeders from Primary Substation A (noting that the de-loaded circuit was capable of feeding either of the existing circuits). The numerator in the CAF calculation is based upon the Required Capacity of the new development, i.e. 2MVA. In this case, the New Network Capacity (under N -1 conditions) following the Reinforcement works is calculated at (and remains under n-1) as 7.7MVA.

Fault Level CAF calculation: This Scheme does not have any significant Fault Level contribution to the existing shared use distribution network and Fault Level CAF is therefore not applicable here.

The Connection Charge for this Scheme is calculated as follows:

Reinforcement & Extension Assets

	Cost	Apportionment	Customer Contribution
1300m of 11KV cable including A-B,C-D,E-F, G-H	£100,000	2/7.7th	£25,974
PoC to the development	£20,000	n/a	£20,000
3 by 800KVA distribution substations	£150,000	n/a	£150,000
On site LV Mains and services	£330,000	n/a	£330,000
8 by 11KV closing joints at A,B,C,D,E,F,G,H	£20,000	2/7.7th	£5,195
2 closing joints at PoC	£5,000	n/a	£5,000