

DCP 181 Worked Examples

Scenario	If connection terms endure	If connection terms do not endure
Demand customer with 15kVA, 100A fused single phase LV whole current metered premises. Sells premises	New customer entitled to 15kVA MIC	Customer entitled to zero MIC. Must request connection for his MIC. Will not get excess capacity charges as NHH traded. Local assets (the fuse) may indicate 23kVA capability so new customer may think he can use that but the shared network might be unable to provide additional 7kVA.
Demand customer with 45kVA, 100A fused three phase LV whole current metered premises. Sells premises	New customer entitled to 45kVA MIC	Customer entitled to zero MIC. Must request connection for his MIC. Will not get excess capacity charges as NHH traded. Local assets (the fuse) may indicate 69kVA capability so new customer may think he can use that but the shared network might be unable to provide additional 24kVA.
Demand customer with 200kVA MIC. Sells premises	New customer entitled to 200kVA MIC	Customer entitled to zero MIC. Must request connection for his MIC. Will get excess capacity charges.
Demand connection constructed for 500kVA. Existing customer reduced MIC to 150kVA. Relinquished capacity allocated to other customers. Sells premises	New customer entitled to 150kVA.	New customer entitled to zero MIC. Will get excess capacity charges. Local assets may appear capable of 500kVA so new customer may think he can use that. Network overloaded as 350kVA relinquished capacity has been given to other customers.
Generation customer has connection with 750kVA MEC. Sells premises	New generator entitled to export 750kVA	New customer not entitled to any export. Believes export is 750kVA.

Generation customer has connection with 1000kVA MEC and agreement to reduce to 500kVA on request by DNO. Sells premises.	Generation customer has connection with 1000kVA MEC and agreement to reduce to 500kVA on request by DNO. Sells premises.	New customer not entitled to any export. May believe export is 1000kVA unconstrained. May refuse to reduce export on DNO request. Shared network overloaded at the time of the constraint.
Demand customer has connection with 1000kVA MIC which was agreed on basis of not using during Super-Red periods and limited to 200kVA in Super-Red periods. This could be to avoid EHV DuoS charges or to achieve a cheaper connection. Customer sells premises.	New customer has connection with 1000kVA MIC limited to 200kVA in Super-Red periods. Sells premises.	New customer entitled to zero MIC. May believe import is 1000kVA unconstrained. May refuse to reduce export in Super-Red periods to 200kVA on DNO request. If original request was to achieve cheaper connection then shared network may be overloaded as additional 800kVA cannot be supported in Super-Red periods. If original request was to avoid Super-Red capacity charges under EDCM then the capacity in the Super-Red period may have been fully utilised for other customers and mean there is no spare capacity to allow more than 200kVA in the Super-Red period.
Generation customer has connection with 1000kVA MEC for Solar Power without storage, which was agreed on basis of exporting between 9am and 5pm only to achieve a cheaper connection. The customer agreed to not export outside of these times and the DNO has connected other generation exporting from 5pm to 9am. Customer sells premises.	New Generation customer has connection with 1000kVA MEC constrained to 0kVA between 5pm and 9am. Sells premises.	New customer entitled to zero MEC. May believe export is 1000kVA unconstrained. May refuse to reduce export between 5pm and 9am to 0kVA on DNO request. If original request was to achieve cheaper connection then shared network may be overloaded as additional 1000kVA export between 5pm and 9am might not be possible.
Generation customer has connection with 1000kVA MEC for Solar Power with 600kVA storage, which was agreed on basis of exporting at any time but limited to 600kVA to achieve a cheaper connection. The customer agreed to not export above 600kVA, taking any surplus into its storage and halting Solar power production if the storage is full and export cannot be limited to 600kVA. Customer sells premises.	New Generation customer has connection with 600kVA MEC with constraints on the interactive operation of its PV and Storage devices. Sells premises.	New customer entitled to zero MEC. May believe export is 1600kVA unconstrained based on sum total of PV and Storage on the premises. The local HV assets may look capable of handling 1600kVA, typical HV minimum switchgear rating being 200A (3800kVA) but the shared network might be unable to cope with an additional 1000kVA export as network capacity may have been provided to other generators.

A consumer or generator customer's connection might require site specific connection terms over and above any import or export capacity controls.

Such factors may, not exhaustively, include the following;

1. Voltage rise limitations due to export
2. Voltage drop limitations due to import
3. Thermal network limitations due to export or import
4. Voltage Fluctuation limitations (flicker and harmonics) due to import or export
5. Fault Level limitations due to totality of paralleled sources of energy
6. Fault Current Contribution limitations driving when a generator can be paralleled
7. Operational circuit running limitations, normal running and abnormal running.
8. Operational restrictions pursuant to the Grid Code or the CUSC which the generator or large consumer is to comply with through the DNO.

These factors may vary from time of day/week/month and can be highly complex and exist in combination for a given premises or a given network locality.