

Part 4f

Transformer information (please complete a separate sheet for each different transformer)

Transformer identifier(s)

Transformer type (Unit/Station)

Number of identical units

number

Type of cooling

Electrical Characteristics

Rated (apparent) power		MVA
Rated voltage ratio (on principal tap)		kV/ kV
Positive sequence resistance at principal tap		per unit
Positive sequence reactance at principal tap		per unit
Positive sequence reactance at minimum tap		per unit
Positive sequence reactance at maximum tap		per unit
Zero sequence resistance		per unit
Zero sequence reactance		per unit

Voltage Control

Type of tap changer (on load / off circuit)

Tap step size		%
Maximum ratio tap		%
Minimum ratio tap		%
Tap position in service (for off load tapchangers only)		%
Method of voltage control (HV connected only)		

## Earthing Arrangements

Winding configuration (eg Dyn11) HV connected only

Method of earthing of high-voltage winding

Method of earthing of low-voltage winding

**Note 10** – This information is not required for Power Generating Modules operating in infrequent short-term operating mode.

**Note 11** – This note does not apply to Power Generating Modules operating in infrequent short-term operating mode. All Power Generating Modules must operate in Limited Frequency Sensitive Mode Over frequency (LFSM - O). FSM capability is mandatory for Type C and Type D. Generators may elect to operate their Power Generating Modules in Frequency Sensitive Mode as agreed in an Ancillary Service agreement with the National Electricity Transmission System Operator. All Type C and Type D Power Generating Modules must operate in Limited Frequency Sensitive Mode Under frequency (LFSM – U).

**Note 12** – The data referred to in this note does not apply to Power Generating Modules operating in infrequent short term operating mode. For Type B Power Generating Modules where the DNO considers that the stability and security of the network is at risk, and has advised the Generator accordingly, sufficient data should be provided in order to build up a suitable Power Generating Module dynamic model for analysis. Alternatively a 'Black Box' dynamic model of the Power Generating Module may be provided. All models should be suitable for the software analysis package used by the DNO. This data should be provided for Type C and D Power Generating Modules.

**Note 13** – Asynchronous generators may be represented by an equivalent synchronous data set.

**Note 14** – Provide the data for each asynchronous generation set based on the number of pole sets (ie two data sets for dual speed 4/6 pole machines).