Part 4a

Synchronous Power Generating Module data: (please complete a separate sheet for each different Synchronous Generating Unit)

Name(s) / identifiers of Generating Unit(s)

Type of Generating Unit (wound rotor, salient pole)

Positive sequence (armature) resistance
(HV connected generators only)

per unit

Direct axis reactances

Sub-transient (X"d) – unsaturated / saturated

per unit

Transient (X'd) – unsaturated / saturated
(HV connected generators only)

per unit

Synchronous (Xd) – unsaturated / saturated
(HV connected generators only)

per unit

Time constants:

State whether time constants are open or short circuit
(HV connected only)

◯ open   ◯ short circuit

Direct-axis sub-transient – unsaturated / saturated
(HV connected generators only)

s

Direct-axis transient – unsaturated / saturated
(HV connected generators only)

s

Generating Unit Voltage Control (to be agreed with the DNO)

If operating in Power Factor control mode, preferred Power Factor

If operating in voltage control mode, voltage set point _____ V

If operating in reactive power control mode, reactive power set point _____ MVAr

Generating Unit Performance Chart attached
If yes, please insert the file name of the attachment here ◯ Yes ◯ No

HV Connected Type A, Type B, Type C and Type D Power Generating Module frequency and excitation

Frequency response Droop setting in LFSM (see Note 8) _____ %

Governor and prime mover model attached (see Note 9)
If yes, please insert the file name of the attachment here ◯ Yes ◯ No

Inertia constant (Generating Unit and prime mover)
(HV connected generators only) _____ MWsec/ MVA

AVR / excitation model attached
If yes, please insert the file name of the attachment here ◯ Yes ◯ No

Type C and Type D Power Generating Module additional frequency response

Frequency response Droop setting in FSM (if applicable) _____ %

Frequency response mode ◯ FSM ◯ LFSM

Note 8 – All Power Generating Modules must operate in Limited Frequency Sensitive Mode (LFSM). 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.

Note 9 – 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.