

## Part 4e

### Power Park Module data: Electricity Storage plant data (please complete a separate sheet for each different Generating Unit)

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

#### Description of Dynamic Requirements (Active Power)

Import: power ramp rate (positive)	<input type="text"/>	MW/ sec
Import: power ramp rate (negative)	<input type="text"/>	MW/ sec
Export: power ramp rate (positive)	<input type="text"/>	MW/ sec
Export: power ramp rate (negative)	<input type="text"/>	MW/ sec

If the power swing will transition from import to export or vice-versa please state the total magnitude of the power swing:

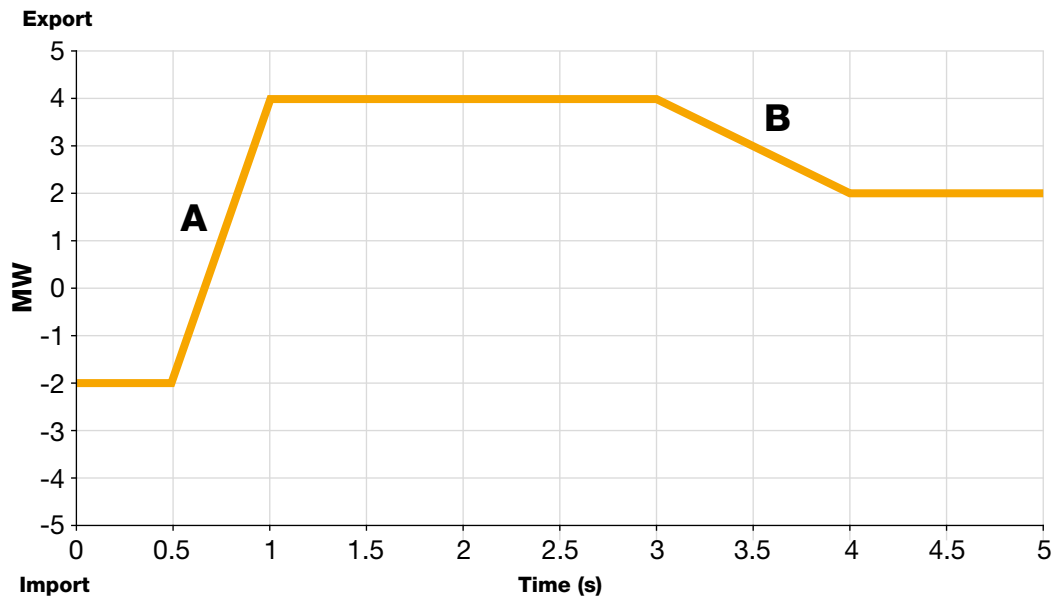
MW       Up/down/both

For the intended control mode or to meet a specific commercial service, are there any known technical or operational requirements? For example the scheme may be required to operate at a Power Factor other than that which might be required by the DNO as measured at the Connection Point?

Yes       No

If yes please provide further details below

## Example of Ramp Rate / Total Power Swing



### A - Example of ramp which transitions from import to export

$$\text{Ramp rate (Positive)} = (2+4) \text{ MW} / 0.5\text{sec} = 12 \text{ MW per sec}$$

$$\text{Total power swing} = (2+4) \text{ MW} = 6 \text{ MW}$$

### B - Example of ramp during export

$$\text{Ramp rate (Negative)} = (4-2) \text{ MW} / 1 \text{ sec} = 2 \text{ MW per sec}$$

$$\text{Total power swing} = (4-2) \text{ MW} = 2 \text{ MW}$$

### 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

MVA<sub>r</sub>

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

Governor and prime mover model attached (see Note 9)  
If yes, please insert the file name of the attachment here

Yes

No

Total effective inertia constant

MWsec/  
MVA

AVR / excitation model attached  
If yes, please insert the file name of the attachment here

Yes

No

## **Commercial Service (applicable to Electricity Storage Plant for each commercial service / mode of operation)**

Name of the commercial service being provided and name of the company the service is being provided to (eg National Grid)

If the commercial service is being provided via a third party, the contact details for the third party service operator (eg an aggregator)

Is this a service which involves co-ordinated response with other Electricity Storage plant either on the Distribution Network, Transmission System, Private Network or aggregator?

Yes

No

If yes please provide further details below