

FURTHER INFORMATION REQUEST

ENQUIRY - ENERGY STORAGE SYSTEM (ESS) HV & EHV - Section A

This form should be used by all applicants considering the inclusion of storage as part of their connection application. This form should accompany your application for a connection.

ESS Installer Name _____	Project Name : _____
ENA Form Application submission date : __ / __ / ____	Network Operator Reference Number _____

Please provide an electrical configuration of the overall system including any generation and storage, showing any individual inverter or generator units (based on current model). This should be included as an attachment.

Is this request for storage only or storage combined with another technology? (delete as appropriate)	Storage only/combined with another technology
Please confirm the storage technology? (e.g. Lithium Ion (LI-ION), Nickel-Cadmium (NI-CD), Sodium Sulphur (NAS) batteries, fly wheel, micro pump hydro, CAES etc)	
If combined with another technology please confirm the other technology/ies (e.g. Solar, Wind, Biomass, Diesel/CHP)	

Nameplate power rating of storage(MW):	
Registered energy storage capacity (MWh)	

For the storage element of your installation please confirm the following:

Security of Supply required		Restate the Authorised Supply Capacity (ASC) required		
Export	Firm	..... MW	..... +MVar	..... -MVar
	Non-firm	..... MW	..... +MVar	..... -MVar
	Total	..... MW	..... +MVar	..... -MVar

The Voice of the Networks

Import	Firm	..... MW	..... +MVar	..... -MVar
	Non-firm ¹	..... MW	..... +MVar	..... -MVar
	Total	..... MW	..... +MVar	..... -MVar

Details of operating modes/commercial service

Please complete section B overleaf (and copies of) for each commercial service or mode of operation required^{2, 3}.

No. of operating modes/services described

Other operational details

Is the ESS to operate in conjunction with another generation source or load on the customer private network?

☐ No or ☐ Yes If yes please provide further details on a separate sheet.

Please provide any other supporting information in the space below. If attaching any datasheets or commercial service details please also state relevant section page numbers here :

¹ The customer will be contacted at a later date for written confirmation of derogation from P2/6.

² The most onerous operating requirements will be used to design the connection to the network and will also be stated in the Connection Offer and any Connection Agreement.

³ Changing your operating modes / commercial services could require an amendment to the connection design and any associated upstream network reinforcement.

Section B - Description of required operation

Commercial Service

Name of Commercial service and company name:	Contact details for service operator :
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Is this a service which involves co-ordinated response with other storage devices either on the Distribution System, Transmission System, Private Network or aggregator?

☐No or ☐Yes If yes please provide further details on a separate sheet.

If not a commercial service please describe the operational mode (e.g. float charge)

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Description of Dynamic Requirements (Active Power)

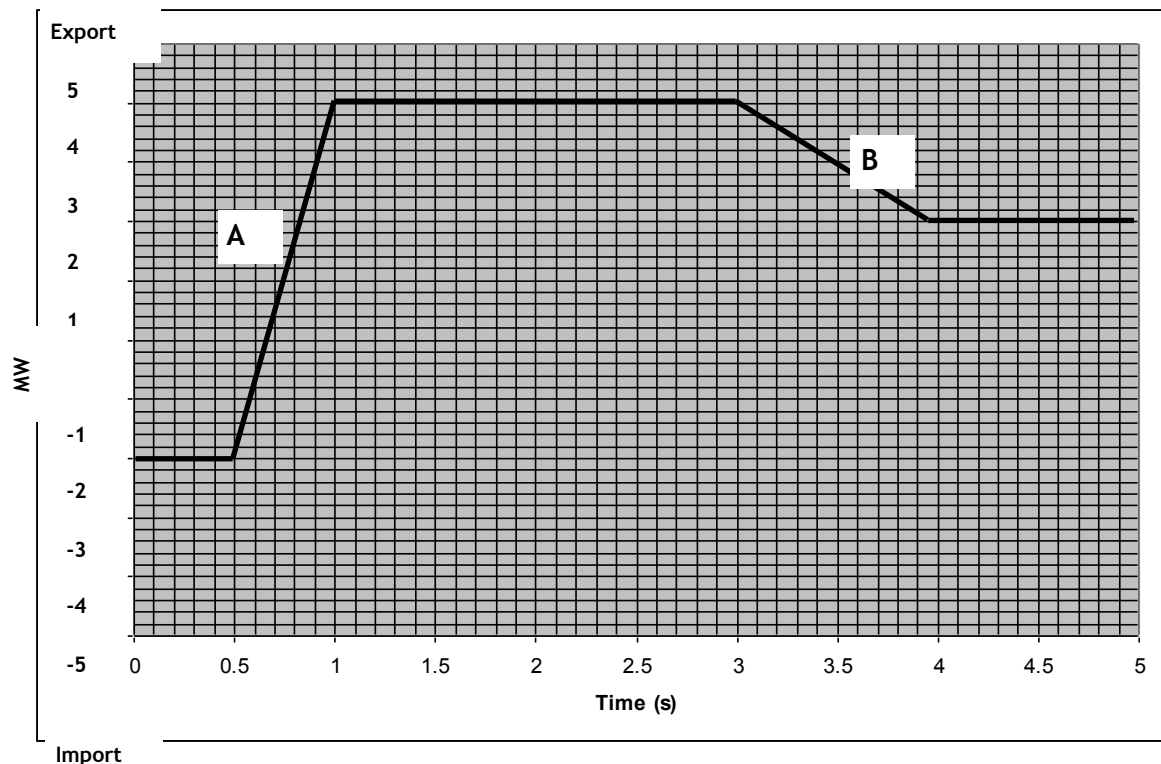
Export	Power ramp rate (Positive) MW/sec
	Power ramp rate (Negative)	..... MW/sec
Import	Power ramp rate (Positive)	..... MW/sec
	Power ramp rate (Negative)	..... MW/sec

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

Description of Dynamic Requirements

For this control mode or commercial service, are there any known requirements (other than those which may be imposed by the Transmission System Operator) for the scheme to operate at non-unity Power Factor as measured at the POC?

☐No or ☐Yes If yes please provide further details on a separate sheet.



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

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

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