

Project ID	DIP033		
Long Title	Enhanced Frequency Control Capability Project		
Short Title	EFCC		
Keywords	National; Multi-sector/Grid; Electricity; Heat; Solar PV; Wind; Direct Electric Storage; Power Quality & Grid Integration; Smart Grids; Demand Response; Active Network Management; LV Grid Monitoring; Policy; Energy Strategy Development;		
Location (Town, Region, Country)	National		
Latitude and Longitude	n/a		n/a
OSGB code	n/a		
Status	Ongoing		
Start Date	2015		
End Date	Undefined		
Description	<p>As the energy landscape changes, relying on traditional coal and gas plants to ensure frequency stability will become increasingly expensive and have a negative effect on the UK's environmental targets.</p> <p>Renewable technologies don't provide natural inertia. As the amount of generation from newer technologies increases, there will be a corresponding decrease in the level of system inertia. This is known to increase the risk of rapid changes to frequency, which can affect the whole power system, causing severe faults or loss of load and generation, in worst case scenarios.</p> <p>The project offers a new approach to dealing with frequency incidents. We'll trial a method of monitoring and instructing response from a range of resources including:</p> <ul style="list-style-type: none"> <li>• Solar PV power plants;</li> <li>• Energy storage;</li> <li>• Wind power;</li> <li>• Thermal generation; and</li> <li>• Demand Side Response (DSR)</li> </ul> <p>The methods being trialled will enable us to develop new balancing services and additional response capability in the grid.</p>		
Sectors	Grid		
Funding Sources	Network Innovation Competition		
Budget £	£9.3million (£6.9 million from NIC)		
Partners	National Grid, Belectric, Centrica, Flexitricity, Orsted, Siemens, GE Grid Solutions, University of Manchester, University of Strathclyde		

Energy vectors	Electricity, Heat
Scale (lab/site/ small/community/region/national)	National
Technologies demonstrated	LV grid monitoring, smart controls, solar PV, battery storage, wind, active network management, network data acquisition
Economic models demonstrated	Grid services
Other concepts demonstrated	Demand response
Industry engagement	
Consumer engagement	
Project Reports (incl. links)	<a href="https://www.nationalgrid.com/sites/default/files/documents/NIC%20EFCC%206%20Monthly%20Project%20Progress%20Report%20Redacted.pdf">https://www.nationalgrid.com/sites/default/files/documents/NIC%20EFCC%206%20Monthly%20Project%20Progress%20Report%20Redacted.pdf</a> Library at website link below.
Datasets (incl. links)	
Website/social media	<a href="https://www.nationalgrid.com/uk/investment-and-innovation/innovation/system-operator-innovation/enhanced-frequency-control">https://www.nationalgrid.com/uk/investment-and-innovation/innovation/system-operator-innovation/enhanced-frequency-control</a>
Information sources	As above