

Networks-06

Operating a Zero Carbon Power System in 2025: Frequency and Fault Current

BUSINESS NEED

Identifying changes needed in ancillary services and markets to facilitate increased participation in service provision, particularly for frequency and fault current support.

PARTNERS INVOLVED

- SPR - Ricardo Da Silva, Grid and Regulation Manager / Anthony Kinsella, Strategic Innovation Manager
- SSER - Damian Jackman, Grid and Regulatory Performance Manager

THE SOLUTION

Understanding trends, challenges, developments and opportunities in frequency management services and markets, and converter capabilities in fault current provision.

Next Steps

Demonstrate capability of wind farms to provide new system services. Define system needs to achieve net-zero operation.

BUSINESS BENEFITS



Evidence to support strategic decision making and interaction with National Grid ESO and other stakeholders. Recommendations have been included in new service definitions by NGENSO.



£245m

Supporting active participation in £150m/year frequency response market and £95m/year fast reserve market.

“We are progressing towards a future in which converter-based generation is to become the backbone of the electricity generation for Great Britain. It’s clear to me that in order to ensure the system continues to operate securely and reliably, converter capabilities are incentivised and unlocked towards achieving decarbonisation targets and reducing cost for the consumer. Networks-06 is a steppingstone in our path to understanding the current state of the art of the new technologies and what can be done to enable them to tackle the future system scarcity challenges.”

- **Ricardo Da Silva**
Grid and Regulation Manager, SPR

“Prompted by NGENSO’s goal of operating a zero-carbon grid by 2025, the Networks-06 project was conceived with the aim of understanding the implications of that goal. The conclusions of the Networks-06 project highlight the urgent need to bring forward changes to the GB ancillary services market, and in particular permit the greater use of clean generation to provide system services, instead of relying on carbon-based generation to operate a zero-carbon grid. It also highlighted the strengths and weaknesses of using converter-connected generation to solve network issues informing potential future value in development projects.”

- **Damian Jackman**
Grid and Regulatory Performance Manager, SSER

