Engineering Solutions and Energy

Demand Side Response

Case Study

Load Curtailment

Create new revenue by participating in a fast-acting reserve service for the National Grid decreasing load in response to frequency deviations within the UK grid transmission and distribution networks

A national operator of multi-temperature storage and distribution centre is earning revenue from load curtailment through an ESE partnership.

This National Grid linked service can create new revenues through existing assets including refrigeration and cold-storage systems. The facility is able to benefit from income made throughout the year from participating in one of the National Grid incentive schemes where short term reduction in load 8/9 times per year provides a lucrative revenue stream.

THE BRITISH ASSESSMENT BUREAU ISO9001

Contact us

01389 729008

www.esenergyltd.com

Load Curtailment

Client:
National Operator of 8 multi temperature storage and distribution centres

Market:
Food & Drink Industry

Project:
To provide revenue by assisting the National Grid but ensuring it does not affect normal business operations and in turn reduce carbon emissions.

Suitable power metering system and frequency relay equipment is provided.

Sites were required to be able to reduce load sub 2 seconds and sustain response for 30 minutes. Sites were also required to have adequate capacity. In general, loads of 250kW or larger are preferred.

Revenue:

£80,000.00 +/annum

Key Facts:

Site used 21GWh of electricity across 8 sites in England and Wales each year.

Up to 0.9MW of electricity consumption can be automatically turned off or down for short periods.

No disruption to core business processes, the system operates only within pre-agreed limits.

Reduces national carbon dioxide emissions.

Five figure revenues earned every year using existing assets.

Technical Solution:

The site's existing facility was utilised.

At times of high national electricity demand, or if a major power station fails the site loads are turned down for a maximum of 30 minutes to reduce the stress on the electricity network. Critical temperatures are monitored to ensure the integrity of the stored product. All metering and equipment is provided FOC.

This reduces the need to keep coal and oil stations on hot standby or running inefficiently at part load — reducing emissions by between 300 to 750 tonnes of CO2 per megawatt per annum.

The sites also benefit from several other services that also provide additional income. Utilising otherwise under used assets on site to feed electricity back to the grid. Seamlessly providing power 50 hours per year without risk to current operations.

The company now have 3 of their 8 sites connected through a smart grid system.

ESE Ltd
Strathleven House
Vale of Leven Industrial Estate
Dumbarton
G82 3PD
Tel: 01389 729008
Email: info@esenergyltd.com