aggreko

GREENER UPGRADES™

SPOTLIGHT

Providing greater resilience at a critical UK Data Centre

THE CHALLENGE

Bridging the energy gap with temporary standby power solutions

A lack of available grid power was causing problems for our client, raising the threat of costly delays and disruption through power failure.

This generator-free site needed three separate power feeds, but at the time of commissioning, only two were available. Our client challenged us to deliver additional redundancy through a third feed. With sustainability high on the agenda, any solution would also have to comply with ESG, and local planning and permitting requirements – meaning standard diesel generators were not an option.

LOCATION
London, England

SECTOR
Data Centres

DATE
2025

PROJECT DETAILS

13 x 1250 kVA
PowerMX2 Stage V Units

5 MVA
Load bank

138,000
Litres fuel tank capacity

6 x 6.3 MVA
Transformers

THE SOLUTION

Switching on to critical, sustainable temporary power

Our engineers designed a 13 MW Stage V generator package to operate in place of one of the delayed grid supplies. The full solution included:

- A temporary 15 MVA at 20 kV standby package
- 13 HVO fuelled PowerMX2 Stage V generator sets on standby
- All associated transformers, switchgear and fuel systems
- Highly customised SCADA Controls
- Cables, containment and all required ancillaries
- 5 MVA load bank for routine load testing of the package to ensure reliability

Our package was fully bespoke, complying with the clients commissioning regime:

Level 1: Factory Acceptance Testing, on our site in Lomondgate

Level 2: Package installed, cables connected and tested

Level 3: Start-up

Level 4: Running to ensure functionality on-site to meet client's specifications ready for IST (Integrated System Test)

Level 5: Operators on-site to ensure IST completed satisfactorily

Preparing for success

Prior to site delivery we conducted a week-long Factory Acceptance Test (FAT test) of 13 MVA at our own depot. Giving our customer and all parties involved complete confidence in our solution.

Knowing that the laydown area was extremely tight, we also designed a scale BIM model of the site, installing bespoke access gantries and highlighting the safest areas to double stack essential kit.

Reducing emissions and noise

Our solution had to be smarter and greener. Which is why we turned to Aggreko's own Greener Upgrades. We commissioned PowerMX2 Stage V generators with advanced components including diesel particulate filters (DPF) and selective catalytic reduction (SCR) systems to reduce harmful emissions. The same generators were also fitted with noise reduction louvres to ensure sound output was maintained below local regulatory performance levels.

SCADA (Supervisory Control and Data Acquisition) controls

We deployed SCADA Monitoring across essential equipment including generators, tanks and transformers. This encompassed a further client connection called EPMS (Energy Power Management System) enabling the data centre to see all equipment monitoring live. This smart integration relies on complex conversion using modbus code, designed and applied by Aggreko in-house.

THE RESULT

Reliable, greener power to meet every test

Our solution successfully delivered a standby power solution meeting our customers resiliency criteria, while providing confidence at every key milestone in this major data centre project. While work is still ongoing and final results are yet to be verified, initial projections indicate that by choosing a Greener Upgrades solution and using Stage V generators running with HVO, the client could save up to 221 tonnes of carbon per day and reduce fuel usage of 4,680 litres per day compared to a standard diesel generator*. This also comes with a notable reduction in noise output.

*The comparision was made using an unclassified 1250 kVA diesel generator as the baseline

What you can expect from our Greener Upgrades range:

Traditional		Stage V	Savings
3,357.66 kg	NOx	53.04 kg	98.4%
190.8 kg	PM	3.73 kg	98.0%
1,293.8 kg	CO2	13.42 kg	99.0%
168.4 kg	Unburnt hydrocarbons	2.18 kg	98.7%

Savings based on
15 generators running

THE AGGREKO DIFFERENCE

Temporary power expertise for lasting peace of mind.