



Extended Backup Power Solution for a remote BTS site

What

Telefónica Móviles, one of World's leading wireless telecommunications carriers, required a reliable backup power solution for a remote BTS site in central Spain. Telefónica Móviles selected IdaTech ElectraGen™5XTR fuel cell system operating with liquid fuel to reliably provide backup power with low emissions for extended periods of time during grid failures.



Why

Designed to replace or supplement traditional power generation products, the ElectraGen™ family of systems provides reliable backup power for applications in the 1 to 15 kW range. IdaTech solution has been installed and extensively tested during on-site evaluation in a remote location North of Madrid. The ElectraGen™5XTR system was installed inside of shelter to evaluate system response to power interruption and replace an existing aging large battery bank. The system was installed with the support of GES (Global Energy Services). Due to the location of the site, liquid fuel (methanol/water mix) was chosen to reduce logistics and safety issues as compared to using hydrogen gas cylinders. The ElectraGen™XTR system integrates a built-in 220l stainless steel fuel tank providing over 100 hrs of autonomy with a 2 kW load. The system is remotely monitored via a GSM connection.

How

The IdaTech PEM fuel cell systems utilize hydrogen derived from reformed methanol/water mix. The fuel mix is converted, on demand, on site, by the reformer module into high purity hydrogen gas. The reformer is kept on stand-by mode for the fuel cell to generate power in less than 2 min. Hydrogen and air are combined inside the fuel cell system to produce electricity with water vapor being the only emission. The liquid-fueled system was selected at this Telefónica Móviles location for its ability to provide backup power for extended period of time without continuous re-fuelling. The methanol/water fuel mix can be safely stored for long period of time and does not freeze in winter.

When

The system sitting, testing and evaluation took place from winter 2006 to spring 2008.

Where

A remote mobile base transmission station in central Spain.

In partnership with

