

Case Study

Telecom Carrier in Turkey Deploys Fuel Cell System as Backup Power at Remote Cell Site

Background

BSS Boray, service provider for GSM sector, installed a 5 kW backup power fuel cell system at a remote BTS mobile network site in Turkey. The telecom network provides communication services in Turkey as well as globally.

Challenge

Cellular sites contain critical telecommunication equipment that requires backup power in case of power outages due to severe weather or poor electrical grid.

Standard backup power at the BTS site consists of large battery strings and a diesel generator, both of which can be unreliable and costly to maintain. With the high cost of diesel fuel and increasing theft of copper grounding material, the need to find an alternative backup power was critical.

Solution

In February 2011, BSS Boray was looking for a backup power product with high reliability, lower maintenance and low risk of theft. They chose IdaTech's latest generation ElectraGen™ ME backup power fuel cell system.

The ElectraGen™ ME fuel cell system was the ideal backup power solution. Fuel cells are a clean, reliable technology with fewer moving parts than a generator and require minimal annual maintenance. There are no theft or vandalism issues with the ElectraGen™ ME as the grounding connection is located inside the system. The ground connection, along with the DC power and communication connections, can all be accessed from the bottom of the system. If all cables are brought up from the concrete pad into the system, the connections will be inside the locked cabinet, which is a security feature of the product.

Fuel cells typically use bottled hydrogen for fuel, but a unique feature about the ElectraGen™ ME fuel cell system is that it operates on HydroPlus, a methanol-water liquid fuel. This fuel cell system includes a fuel reformer that converts methanol-water liquid fuel into hydrogen gas to power the unit. By generating its own hydrogen, the need for delivery and storage of bottled hydrogen is eliminated. The ElectraGen™ ME fuel cell system provides extended run backup power for days instead of just hours. Its fuel tank holds 59 gallons of fuel which produces 40 hours of 5 kW output power. Refueling the ElectraGen™ ME system with HydroPlus liquid fuel is an easy task compared to compressed hydrogen fueling logistics.

Result

The ElectraGen™ ME Fuel Cell System was commissioned in February 2011. As expected, the system ran seamlessly and as of August 2011, over 3,431 run hours were logged producing more than 5,892 kW-hours of power.

The telecom customer is pleased with the results of the backup power fuel cell system providing reliable power while at the same time eliminating diesel fuel and theft issues.



Overview

Site: Remote Site in Turkey

Application: Backup power for BTS (Mobile Network) Load 1.2kW

Product: ElectraGen™ ME System

Configuration: 5kW, 48 Vdc

Fuel: Methanol-water liquid fuel

Customer Motivations: Fuel cell systems are reliable, virtually maintenance-free, and eliminate high diesel fuel and theft costs.