

Case study:

Major Asian Telecom Company switching from Diesel Generators to Fuel Cells

Worldwide we are experiencing an increasing demand for telecommunication services. This is also the case in the Philippines. A major challenge for the providers of telecommunication services in the Philippines is to provide continuous electricity for the more than 101 million mobile subscribers in the country, as the Philippines consist of around 7,000 islands, which makes it difficult to provide electricity covering the current demand.

The Situation

One of the major telecommunication providers in the Philippines is moving away from diesel generators and to fuel cell power generators. While diesel generators serve its purpose, they do share a number of issues. Diesel generators are often noisy, vibrates while running and emits CO₂ gases and pollutant particulate matters. It is for this reason, that building owners and site administrators often rejects the proposal to install diesel generators within their premises. Diesel generators often introduce the risk of fuel theft and unstable fuel prices. Serenergy's fuel cell systems offer significant advantages, as it runs on methanol, which is produced at low costs.

A major concern in the Southeast Asia is the catastrophic impact the devastating weather conditions and frequent typhoons have to the country's communication infrastructure. The devastating weather conditions fortify the need for reliable and extended runtime backup power systems, which can ensure stability of wireless communication services during and after critical weather events.



The Solution

Serenergy's fuel cell systems are virtually silent, emission-free at point of use, high efficiency, no moving parts reducing operating and maintenance costs, low risk fuel-theft, more stable fuel prices, less hazardous fuel spills and more improved reliability. Compared to a conventional diesel generators Serenergy's fuel cell system is a more cost-effective back-up power source, which can sustain a long back-up autonomy during prolonged power outages and thus improving on system availability. Serenergy's fuel system is therefore ideal for telcom and can produce power for short power outages and 24/7.

The system

Serenergy has delivered two H3 5000 modules, which both delivers 5 kW, and an outdoor cabinet with a modified external and continuous fuel support, containing 1,500 liters M60 (a mix of 60 % methanol and 40 % water). The flexibility of the system is one the main advantages of the Serenergy fuel cell system compared to other fuel cell systems. The fuel cell system installed on the site produces 10 kW; the system can however be scaled up or down, depending on the need.

Serenergy's H3 methanol fuel cell system provide both extended runtime back-up power as well as continuous power. Fuel cells are based on clean, reliable technology that delivers predictable performance a broad range of climates, and can operate in a range of -20 to +50° Celsius, while also eliminating emissions, noise and maintenance requirements.



Facts:

Sites: Asia

Applications:

Distributed Power generation for back-up and continuous power generation

System: H3 5000

Configuration: 10 kW

Fuel: M60

(60% methanol, 40% water)

Objective: Provide a reliable, extended duration runtime solution for backup power and continuous power for a silent and zero-emission fuel cell solutions, replacing diesel generators around the world.



Serenergy A/S

Serenergy is a leading manufacturer of fuel cell stacks and power modules based on the High Temperature PEM fuel cell technology. We provide everything from fuel stacks and systems for OEM integration all the way to providing complete turnkey solutions for diesel generator replacement

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