



Alpha Uninterruptible Power Supply Solutions Ensure Continuity of School Districts' Critical Systems

An Alpha Technologies Case Study

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Summary

An Alpha Uninterruptible Power Supply (UPS) solution can provide schools with a reliable means of keeping their critical communications and computing assets working 24 x 7. Failure of a UPS dedicated to critical systems could leave schools without any means of communication, internally and externally – a serious situation in the case of an emergency.

An Alpha UPS can benefit operators by providing:

- Instant web access to operational and performance data of the battery backup system, including battery health testing and subsequent maintenance.
- Easier access to batteries without taking the system offline.
- Greater insights into system performance, including alarm notifications, allowing the operator to provide timely system maintenance (e.g. replacement of batteries), which greatly improves the reliability of the UPS system and averts failure.

Background

School District No. 37 (Delta) is located in Delta (South of Vancouver) in British Columbia, Canada. The district serves 15,500 students at 31 schools in the Municipality of Delta, including the three communities of Ladner, Tsawwassen and North Delta. Uninterruptible Power Supply backup has been a critical program for the Delta School District because it provides power conditioning and battery back-up to computer servers, as well as telephone and public address systems at each school site during a power outage. Without a battery backup system in place, internal and external communication assets would be inactive until utility power is restored which could potentially take hours.

Challenges

In a typical Delta school site there are usually three UPS's: one for the server equipment, one for the telephone system and one for the PA system. While phone and PA systems themselves are very reliable, it was documented over several years that the main source of problems with each system was related to a failure of the UPS.

After experiencing premature battery failures at many school sites, Paul Parsons, Electronic and Computer Services Foreman at the Delta School District, approached Alpha Technologies for

an alternative to the non-Alpha UPS product being used by the District. The UPS system in place was not able to provide real-time operational data, nor did it provide the ability to do battery testing or remote diagnosis of issues. The schools' battery backup status at any given time was, for all intents and purposes, unknown.

Even with a rigorous battery replacement program, staff were not able to maintain a low failure rate on the UPS's. Performing repairs proved to be difficult while the UPS was in service. If a non-monitored battery failed and swelled in size, it was nearly impossible to remove it from the metal battery housing case without removing the UPS from service and disassembling the unit.

Solution

Given these ongoing challenges, the solution Delta chose was an Alpha FXM 2000 (2000 Watt) UPS system configured for remote monitoring (via SNMP card). Delta now has the ability to connect the units to the internal District network and can view the exact status of each site from anywhere at any time. This includes battery diagnostics/status, alarm status/history, as well as current system statistics such as voltage, total output power and temperature.

End Result

After a successful field trial in 2011, the School Board has an additional 14 sites earmarked for FXM 2000 UPS upgrades in 2012. This project includes backing up the school wireless networks.

“Moving to a single, larger Alpha FXM 2000 UPS has enabled us to standardize one UPS solution for all the schools and applications,” noted Parsons “We have one FXM UPS that provides power to all three systems (server, telephone and public address). The FXM 2000 units are web-enabled so that I can monitor the health of the unit remotely, schedule tests and have event alarms emailed to our technicians. The batteries are in a battery tray and are easily accessed. We can also easily disconnect the batteries from the UPS for service without impacting the load.”

“Moreover, we have started a multi-year program with Alpha that will allow us to replace all of our current poor-performing UPS units with Alpha FXM series UPS units.”

As evidenced by this case study, selecting the right UPS for specific applications is essential to ensuring critical systems are kept safe and operational during power fluctuations and shortages.

About Alpha Technologies

Alpha Technologies Ltd. is an established leader in the design, manufacture, service and installation of powering solutions for the Telecom, Traffic, ITS, CATV, Security, Medical, Industrial and Renewable Energy industries. The company offers a broad portfolio of high-quality, feature-rich solutions that can be customized to suit almost any application and environment, offering the highest performance and best value in the industry. With a focus on being a power solutions partner, Alpha builds on more than 35 years of outdoor power manufacturing experience to develop solutions that solve customers' unique powering challenges.

As a member of The Alpha Group, Alpha Technologies Ltd. is part of a global alliance of companies that share a common philosophy – to create world class powering solutions for communication, commercial, industrial and renewable energy markets.