

Expanding Data Center Selects PureWave UPS System



Background

A data center in Montana needed a new building to handle their expanding business. One problem they faced involved their existing UPS, which protected 13 server and two telecommunication racks. It would not be adequate for the new facility, which would include more than 50 racks. And, as a further requirement, the data center wanted UPS protection for their developers' workstations, and the computer room and its HVAC system.

After the initial expansion, the load was expected to grow to 560 kVA within five years.

What did they do?

The data center hired a consulting engineer to design the electrical system and evaluate backup power alternatives for the loads. The engineer considered conventional battery-based and flywheel UPS systems as well as the S&C PureWave UPS System. Their analysis showed the PureWave UPS System would provide the best solution.

The PureWave UPS System:

- Offers longer ride-through capability than flywheel systems.
- Has the lowest life-cycle cost of any UPS.
- Is 98% efficient—saving the data center almost \$40,000 a year in electricity costs compared to a conventional UPS.

- Can protect data center air conditioning as well as the servers. With a conventional UPS, the data center might need to shut down after a few minutes without air conditioning, to prevent damage to the servers from overheating.
- Does not inject harmonic currents into the utility source or standby generator, like a conventional UPS. The PureWave UPS System would save the data center over \$10,000 because the generator would not need to be oversized (as would have been the case with a conventional UPS).
- Can be installed outdoors, saving valuable air-conditioned, indoor space.
- Is expandable. Initially supplied in a rating of 313 kVA/250 kW, it can be readily increased to 625 kVA/500 kW.

Results

A 313-kVA/250-kW PureWave UPS System was selected for the application and installed outdoors, saving indoor space. It protects the servers and the air conditioners, and will keep the air conditioners operating through sags and outages.

If the load grows beyond 313 kVA, the system can be expanded to 625 kVA/500 kW with the addition of a power module . . . a procedure that takes less than two hours.

