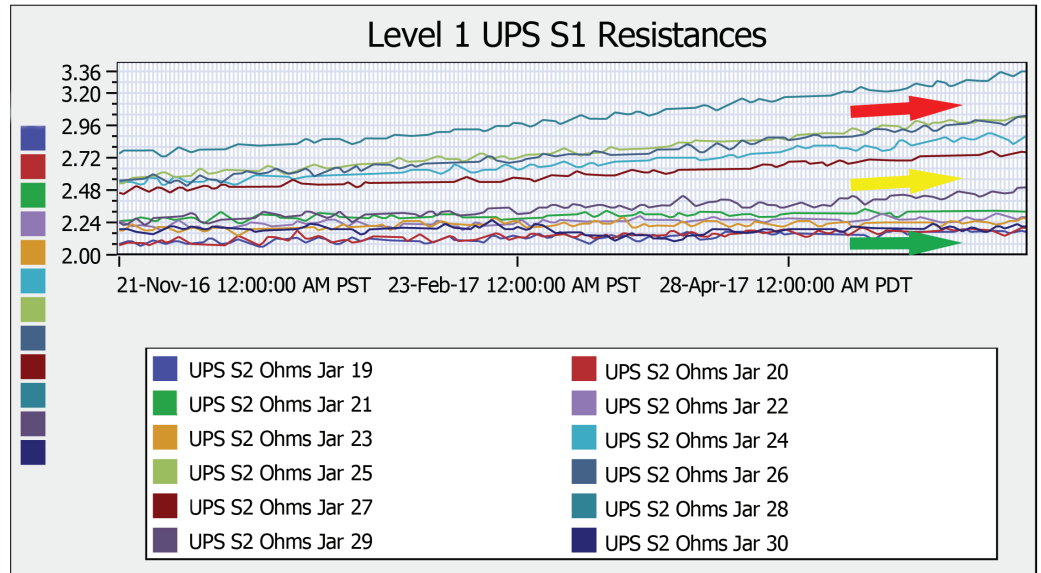


CASE STUDY: DATA TRENDING PREDICTIVE ANALYSIS PREVENTS POTENTIAL HOSPITAL SHUTDOWN

July 2017 - A major Northwest hospital who treats cancer patients using proton therapy has avoided costly downtime, emergency maintenance and lost patient care due to a predictive analytical monitoring system installed by CPSI.

The hospital's Cyclotron radiation equipment accelerates protons to an extremely high speed which produces a beam of intense energy directed at cancer cells to destroy the genetic material that controls cell growth. The main components of a cyclotron are electrodes, a high frequency power source, and a powerful electromagnet. Following their release from the atom, protons are directed into an area between the electrodes and are then accelerated using high frequency alternating voltage. The strength of the alternating voltage magnetic field on the electrodes remains constant and therefore the cyclotron produces a beam of particles with a constant speed and most importantly - a constant energy.



Historical data shows resistance trending higher. The arc is getting growing, moving faster and spreading.

The Mitsubishi UPS system sold and installed by CPSI acts as a conditioner to the utility power that is entering the building and is critical to maintaining clean, constant energy for the cyclotron to operate.

Even if the power is on, if the hospital's UPS goes down, they no longer have the capability to perform proton therapy cancer treatments. Patients lose their time-sensitive therapy. The hospital loses revenue on a very expensive piece of equipment and the salaries of the professionals that operate it.

As part of CPSI's OnWatch monitoring service, our technicians do an overview of each environment at least once a week to test each system and make sure they are not having any abnormal metrics.

Upon review of the hospital's BAC (Battery Analyze & Care) system, CPSI's team noticed that voltages were lower on one string of batteries. CPSI techs analyzed the trending metrics over the previous eight months and noted the resistance of the batteries was starting to climb. With predictive analysis, it was calculated that the rate of climb was 1/10 ohm every month.

"The problem started in the middle of this particular string," said Hubbard. "Resistance will spread like a virus until a failure. We want to make sure we stay ahead of the curve and replace the batteries before they hit a catastrophic level. Our team will keep an eye on them and prepare regular monthly reports to make sure we're still within parameters."

"What will generally happen with batteries is that the middle of the string starts to increase resistance which spreads like a virus until a failure," said Hubbard. "We want to make sure we stay ahead of the curve and replace the batteries before they hit a catastrophic level. Our team will keep an eye on them and prepare regular monthly reports to make sure we're still within parameters."

"Customers appreciate the visibility of the system so that they can prevent downtime and also be proactive rather than reactive with regards to budgets and schedules," said Jeff Jones, CPSI CEO. "Scheduling maintenance using predictive analysis can prevent critical power failure, eliminate emergency battery replacements and allow for redundancy during maintenance."

"This is prime example of where OnWatch has saved an organization a lot of money in downtime," said Hubbard. "Batteries don't fail when they are under charge or simply being monitored. They fail when they are hit with a load which is unpredictable. Rather than a real time snapshot, OnWatch tracks the historical data and can do a predictive analysis to trend battery resistance before it hits the critical threshold. It has given this hospital a reasonable window where they can replace the batteries by the end of the year and avoid facing a major crisis and loss of patient therapy."



For more information please contact us by emailing sales@cpsiwa.com or calling (206) 782-7090

