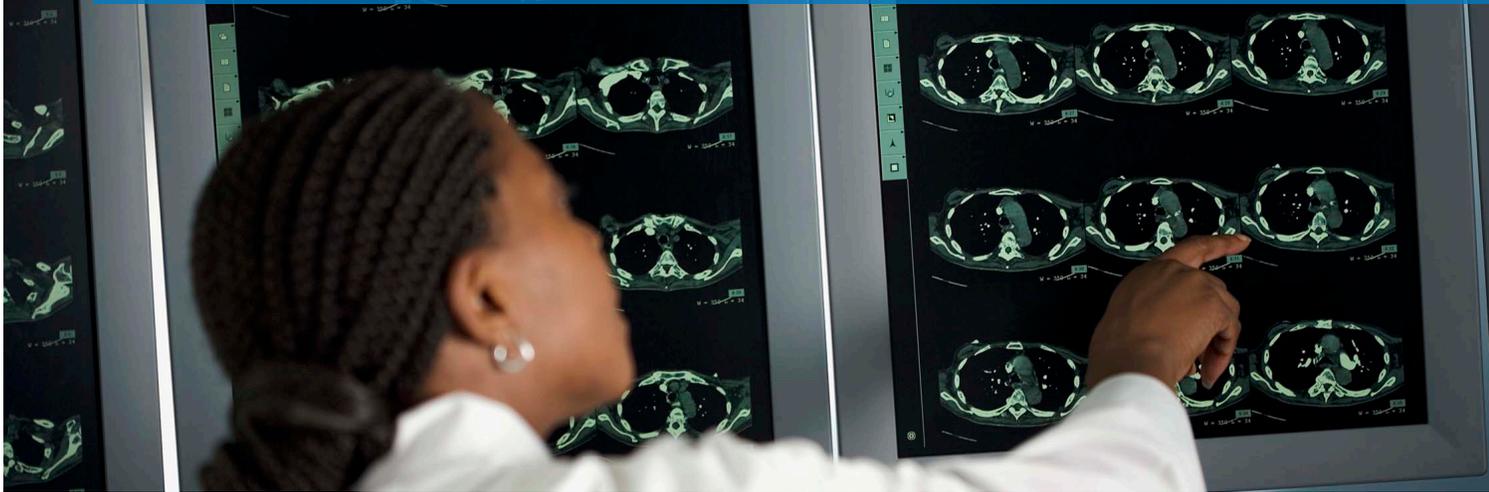


Success Story: St. Joseph Hospital West



Eaton 9355 Takes Away Hospital's Power Ills

Product:

Eaton® 9355 UPS

Location:

Lake Saint Louis, Mo.

Market Served:

Medical

"When we've had outages—whether it be from someone running into a power pole or a thunderstorm—everything has stayed up."

- Jim Klos, lead technical analyst

Background

Missouri's SSM St. Joseph Hospital West was established in 1986 to meet the expanding health care needs of western St. Charles County. Today, the community hospital is the leading provider of emergency and obstetric services in St. Charles, Warren and Lincoln counties, as well as the preferred provider of many specialty medical services.

The first hospital in the St. Louis area to go live with a comprehensive clinical electronic health record in March 2008, St. Joseph Hospital West offers 125 inpatient beds and provides critical care in a state-of-the-art Intensive Care Unit, as well as supports designated Telemetry rooms with cardiac monitors, medical-surgical rooms, and dedicated orthopedic, oncology, obstetric and pediatric units. All inpatient rooms are equipped with flat-screen computer monitors, where caregivers chart medical information directly into the patient's electronic health record.

The hospital—part of the larger SSM Health Care St. Louis network—is also a state-designated Level III Trauma Center, meaning it has the ability to treat seriously injured and critically ill patients with greater speed and at a higher skill level than the average emergency department. St. Joseph Hospital West is also recognized as a Primary Stroke Center and Chest Pain Center.

In 2008, HealthGrades designated St. Joseph Hospital West as a "Distinguished Hospital for Patient Safety." The hospital also received the 2005 Missouri Quality Award and was named among the Top 100 Hospitals in 2000 and 2003 by Thomson, an independent research organization that evaluates 3,000 hospitals based on 30 clinical indicators.

Challenge

Ensuring the ongoing health of its critical systems is a significant part of St. Joseph Hospital West's ability to deliver the outstanding patient care for which it has been recognized. From Picture Archiving and Communication Systems (PACS) to cardiology reports to patient records, it is essential that the hospital maintains 24x7 access to its technology systems and patient information.

"X-ray pictures come to the server and then doctors access them or they are transmitted to the main server," explains Jim Klos, the hospital's lead technical analyst. "We never stop working here."

Three years ago, as the health organization was preparing to implement a paperless and filmless system, St. Joseph Hospital West recognized the need to also deploy an uninterruptible power system (UPS) capable of safeguarding its most vital assets from the area's frequent power anomalies.

"We needed something that would protect our core switches, our on-site servers and all of the fiber that connects us to the WAN," Klos says. "We have to be able to stay in communication," he emphasizes. "With our WAN, all patient information—although protected—can be viewed at any SSM hospital or doctor's office. Having that record availability is essential."

In addition to exceptional reliability, St. Joseph required a solution that was robust enough to meet the load requirements of the hospital's numerous systems. Furthermore, the need to configure the UPS within a small server room necessitated that the unit have a space-saving design. Other considerations

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were a solution that would afford sufficient backup time, as well as one that would be compatible with the hospital's backup generator.

Solution

St. Joseph Hospital West discovered the best immunity against power problems could be achieved with the Eaton® 9355 UPS. Indeed, the double-conversion design of the three-phase unit provides the perfect cure for potentially devastating problems caused by unstable power. The UPS shields equipment from the most common problems including blackouts, sags, surges, spikes, brownouts, line noise, frequency variation, switching transients and harmonic distortion.. Even with a complete loss of utility power, there is no delay transferring to the 9355's backup power supply.

"The UPS has definitely performed during unstable power," confirms Klos. "Thunderstorms roll through this area and there's nothing you can do about it. When we've had outages—whether it be from someone running into a power pole or a thunderstorm—everything has stayed up. If we wouldn't have had the UPS, our systems would have gone dark."

In addition to its unparalleled reliability, the 9355 boasts a high 0.9 output power factor that provides more power than the vast majority of competitors' models. Furthermore, the unit's high efficiency rating of up to 92 percent across all load ranges reduces utility costs and helps the UPS run cooler, extending component life while contributing to green energy efforts.

Another benefit of the 9355 is the unit's battery runtime capabilities—three times greater than comparable models. The addition of numerous Extended Battery Modules (EBMs) has enabled St. Joseph Hospital West to achieve backup runtime of up to two hours.

Considering the hospital's space constraints, the 9355's sleek design—with a footprint that is half the size of previous generation systems—also proved to be just what the doctor ordered. Successfully addressing today's widespread challenge of managing power protection in ever-shrinking spaces, the 9355 has the ability to deliver 30 kVA of power protection in a compact, tower configuration that includes internal batteries. In fact, the 10 and 15 kVA models measure just 12 inches wide and 33 inches deep, while the 20 kVA model deployed at St. Joseph Hospital West, as well as the largest 30 kVA model, are just 20 inches wide and 34 inches deep—including the internal batteries.

"Space was a definite consideration," notes Klos. "We needed to fit not only the UPS in the room, but also two server racks and other equipment."

Furthermore, the hospital doesn't have to worry about the possibility of growing loads, thanks to the 9355's scalable architecture. Because the unit's initial configuration can be matched to a facility's existing needs, with the ability to scale from there, additional servers or other equipment can be supported as needed, without having to purchase a brand new UPS. Even more, using Eaton's signature Hot Sync technology, units can be paralleled for capacity or redundancy. For example, a 30 kVA unit can expand to support loads of up to 90 kVA, with N+1 redundancy.

The 9355 also offers a low input current distortion of less than five percent total harmonic distortion (THD), which allows maximum transfer of power between the power source and protected load, making the UPS exceptionally friendly to generators. This was an important prerequisite for St. Joseph Hospital West, which relies on a backup generator during extended outages.

In fact, Klos recalls one incident in which a transformer blew, forcing the hospital to switch from commercial power to generator power throughout the week while repairs were being made. "We had several power interruptions while we were fixing the thing," he recalls. "But all of our systems stayed up over the entire seven-day period."

Implementation

Installed within the hospital's server room, the 9355 was easy to set up and deploy. Since the initial installation, St. Joseph Hospital West has ensured that its UPS remains in tip-top health by engaging in an annual "physical."

With a preventive maintenance service plan through Eaton, the hospital receives the peace of mind of knowing that the UPS's complete system and batteries are thoroughly inspected and test each year.

"The service technician gives us a full report and if anything is needed, we get it taken care of," explains Klos. "I don't have to worry about the UPS."

Further easing maintenance are the 9355's lightweight hot-swappable batteries, which can be quickly changed without disrupting operations or power to protected equipment.

Result

For St. Joseph Hospital West, the 9355 is a big part of an effective treatment plan to ward off downtime. "It's very critical," Klos acknowledges of the UPS. "We must have it."

Since deploying the 9355, the hospital is now able to:

- Ensure the high availability of mission-critical systems and medical information
- Expand its existing UPS solution as equipment needs evolve
- Preserve valuable floor space with a small footprint
- Gain sufficient battery runtime through the 9355's Extended Battery Modules (EBMs)
- Keep all systems up and running during a complete power outage, until the hospital's generator can fully power on



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