



Power Xpert 9395 units respond to the call at 9-1-1 center

Location:

New Orleans, La.

Segment:

9-1-1 Emergency Services

Problem:

The city's brand new 9-1-1 center demanded the highest level of power protection to keep critical systems up and running 24x7.

Solution:

Eaton® 9395 UPS, ESS, Service

Results:

A pair of Eaton 9395 UPSs delivers the high availability, efficiency and small footprint required by OPCD.

"All of the equipment on our site used to provide 9-1-1 services to New Orleans is backed up by an Eaton 9395."

Karl Fasold, OPCD system administrator

Background

As the administrative office of 9-1-1 for the city of New Orleans, the Orleans Parish Communication District (OPCD) is responsible for serving some 350,000 residents — not to mention an additional 350,000 daily commuters. Created by state legislature in 1982, the formation of OPCD and the subsequent creation of 9-1-1 districts around the state was the culmination of efforts by the public safety community to provide a single, easy to remember telephone number for citizens to request emergency services. OPCD provides the facilities, equipment, and training for new and experienced police, fire and emergency medical personnel to answer 9-1-1 emergency calls. In 2011, the New Orleans 9-1-1 center handled nearly one million telephone calls.

Challenge

To better respond to emergencies, in March 2011 OPCD proudly unveiled the new Warren E. McDaniels 9-1-1 Center, a building designed and constructed from the ground up after many years in the making.

"We had been planning to build a consolidated communications center prior to Katrina," explains Karl Fasold, OPCD system administrator. "But the hurricane seriously affected those plans. We were scrambling just to keep services in place."

As the vision of the world-class permanent facility began to take shape, OPCD and its architects published a single wide-ranging bid solicitation for construction of the planned facility. Integral to the plan were specifications for the wiring of the building, backup generators and uninterruptible power systems (UPSs). Among the factors OPCD desired in a UPS was the highest level of reliability — necessary for the organization to ensure that all 9-1-1 equipment remains functional 24x7. Energy efficiency, footprint and service were other important aspects desired by the division.

Based upon determination of the requirements for the UPS systems, the architects and their consulting engineers specified two Power Xpert™ 9395 275 kVA UPSs, along with accompanying battery cabinets to provide the required runtime, as specified in the bid documents.



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Solution

When the Warren E. McDaniels 9-1-1 Center hosted a ribbon-cutting ceremony in March, the two Eaton units were ready to answer the call.

"They are protecting everything in the building," Fasold says, noting that the lineup includes telephony equipment, radio system devices, CAD servers and mainframes. The UPSs also ensure continuous uptime to specialized equipment that intercepts information from incoming 9-1-1 calls and automatically populates it into computers and workstations in front of operators.

"All of the equipment on our site used to provide 9-1-1 services to New Orleans is backed up by an Eaton 9395," Fasold emphasizes.

As a result, citizens can rest easy, considering that the 9395 offers unprecedented power performance and efficiency, while delivering the highest level of reliability and availability on the market — thanks in part to its inherent redundancy option. The UPS can be configured so uninterruptible power modules (UPMs) automatically act as N+1 redundant systems, further enhancing reliability. Traditional UPS manufacturers cannot deliver this supplemental availability without adding a more costly second UPS.

OPCD opted to deploy its two 9395 units on separate circuits, "but the back room equipment is all dual-powered — fed from both UPSs — so there's virtually no chance of an outage," Fasold explains. "In addition, with the N+1 internal redundancy, even losing a single UPS isn't really a concern. I don't expect we'll ever drop the load, but we're still careful and have designed and implemented the system based upon that remote possibility."

Unlike some other UPS technologies, the 9395's dual-conversion design completely isolates output power from all input power anomalies and delivers 100 percent conditioned pure sine wave output — regulating both voltage and frequency. "We liked its ability to pass through commercial power and immediately switch to rectified clean power," Fasold

confirms. "We've experienced several utility losses and sags since installing the units and have had no issues with the connected equipment."

The 9395 also boasts the highest efficiency rating in its class, resulting in lower utility costs. "We wanted energy saving aspects in a UPS," Fasold acknowledges. "The electric bill savings were extremely important, but we wanted to be able to do so without sacrificing the protection of the equipment."

Mission accomplished, thanks to the 9-1-1 Center's deployment of Eaton Energy Saver System (ESS), which enables the 9395 to attain an industry-leading efficiency level of 99 percent, making it the only technology on the market capable of yielding such results. Using ESS, the UPS intelligently adapts to utility power conditions while supplying clean power to the connected equipment. Even more, because UPSs using ESS maintain 99 percent efficiency even when lightly loaded, the technology can deliver gains of up to 15 percentage points in efficiency over traditional models in the typical operating range.

"ESS is even more important to us given the low load we've had on the units thus far," Fasold reveals, noting that the UPSs are currently loaded at just 10 percent. "Even when we complete migration of all activities from our previous facility, we'll likely top out at 40 to 50 percent of load," he adds. "We planned for growth when we spec'd the units. We know that in 10 years, we'll still have the backup power solution to provide for our load requirements."

And while the 9-1-1 Center's UPS investment is long term, the value of ESS will be recognized by OPCD in virtually no time at all. Considering the significant utility savings, the district estimates that ESS will pay for itself in just 12 months. "Going with ESS was a no-brainer," Fasold says. "It was one of the most important

aspects to us. When we put the new facility on line, our electric bills were much less than we expected. We are consistently under our original budget for our power costs."

OPCD's commitment to select and deploy superior UPS technology proved critical during the building process, when a subcontractor proposed a post-award substitution of a competitor's model for the 9395s. "We didn't accept the substitution request due to the 9395's unique features, which met our requirements, as well as Eaton's service arm providing minimal time between the report of a problem and a technician arriving on-site."

Furthermore, the manufacturer of the 9-1-1 Center's phone equipment also sought to provide a power protection solution. "Within our industry, when you put in a new system, vendors often want to supply backup for their own device," Fasold explains. "But we politely declined."

Another boon for OPCD was the footprint of the 9395 units, which were installed in their own equipment room within the Center. "The footprint was the first thing that jumped out at us when they tried to do the UPS substitution," Fasold recalls. "The competitive UPS was almost double the size and would have removed our future growth capabilities, as well as made it very difficult to navigate through the room."

Indeed, the 9395 offers the smallest footprint and lowest weight of any UPS in its class — 50 to 60 percent less than competitive units. "We were able to have unimpeded pathways the length of the room," Fasold says. "Plus it left space for another battery cabinet if we ever need one."

The Center is also benefitting from Eaton's Intelligent Power® Manager software, which enables monitoring and management of multiple network power devices. "We're very pleased with the ability of the system to notify us if there's

a problem," Fasold says, "as well as be able to remotely monitor, access and control."

Furthermore, OPCD recognizes that superior power reliability depends upon ongoing support — a pledge underscored by Eaton. To that end, every 9395 includes an on-site startup from a factory-trained technician to ensure proper installation, operation and customer training.

"We had a great training session where they walked us through everything several times to make sure everyone was comfortable," Fasold reports. "The history and reliability of Eaton and the company's support commitment were very important to us."

In addition to startup service, each 9395 includes a full year of on-site 24x7 parts and labor warranty, as well as service protection plan coverage, at no additional charge. "I have nothing but good things to say about our local service technicians, as well as Eaton corporate," Fasold says. "We're very happy with the performance of the systems."

"The most important fact for us is that it just keeps working," Fasold emphasizes. "We don't have to do a lot to check on it; we don't have to worry about what equipment we have on it because we know it's protected."

Results

"The 911 call-taking is fully functional in the building, and we're very happy with the Eaton 9395s providing filtered and conditioned continuous power to the facility," Fasold sums up.

With the two units in place, OPCD is now able to:

- Ensure continuous uptime to the city's vital 9-1-1 equipment
- Reap tremendous utility savings with ESS
- Preserve valuable space with the 9395's small footprint
- Maintain the ongoing health of the units with an Eaton service plan
- Gain remote monitoring and management of the UPSs through power management software

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