

Success Story: Chester County 911

Market Served
Data Centers and IT



Eaton 9155 answers the call for busy 9-1-1 center

Location:

West Chester, Penn.

Segment:

Government

Problem:

The county needed a reliable, compact and expandable power protection solution to safeguard critical communications equipment at its outlying tower locations.

Solution:

Eaton® 9155, Service Plan

Results:

With Eaton 9155 units, the 911 center gained the reliability it needed to ensure the ongoing safety of citizens.

"It became apparent after our first initial installations that Eaton was the product we were going to use."

Robert Lee, technical support engineer

Background

On a typical day, Chester County's 9-1-1 Communications Center answers some 900 calls for assistance— amounting to more than 300,000 calls per year. Located approximately 30 miles west of Philadelphia, the busy 9-1-1 center is staffed 24/7 to provide the citizens of Chester County with emergency call receipt, interim assistance, response coordination and responder dispatch. The center even offers a translation service covering more than 200 languages, and is equipped to expeditiously handle calls from hearing-impaired citizens.

Supporting the dispatchers are sophisticated networks of computers and other telecommunications equipment that provide links to the State Police, Pennsylvania Department of Transportation (PennDOT), the Pennsylvania Emergency Management Agency (PEMA), and other national, local and regional responder organizations. The operation of the 9-1-1 center is coordinated with the

Chester County Chiefs of Police Association, the Chester County Fire Chiefs Association and the Chester County Emergency Medical Services Council, Inc.

Challenge

Because lives could potentially be hanging in the balance, it is imperative that Chester County ensure continuous high availability to its critical 9-1-1 equipment, including public safety radio transmitters and receivers; mobile data transmitters and receivers; voice paging equipment; and tower site control computers.

"Downtime is not a good situation in public safety," acknowledges Robert Lee, technical support engineer for the county's 9-1-1 center. "Responders need to communicate emergency and routine information to the dispatch center and other public safety responders."

EATON

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That's why over the past five years, Chester County Department of Emergency Services has trusted Eaton products to safeguard its 9-1-1 center and corresponding tower site locations. Prior to that, the county had experienced various problems with other vendors' uninterruptible power systems (UPSs). "The units quickly went out of production," Lee recalls. "And it was tough to get support for the products, plus equipment replacement parts were slowly dwindling."

Understandably, the county sought an alternative product to supply backup power to the equipment located at the tower sites. "It became apparent after our first initial installations that Eaton was the product we were going to use," Lee reveals.

In addition to high reliability, Chester County required a UPS that would be easy to maintain, provide for future expansion, and wouldn't occupy much space at the tower locations.

Solution

Chester County discovered a real life saver in the Eaton line of UPSs, opting to install 15 kVA 9155 models at each of its 12 radio tower sites. In addition, an Eaton 9170 UPS was deployed at the county's higher profile tower site, as well as two Powerware® 9125 units to safeguard Computer Aided Dispatch Operations. Finally, two Eaton 9390 three-phase UPS units provide backup at the 911 Emergency Call center operations and Emergency Operations center.

The double-conversion design of the 9155 completely isolates equipment from utility power to protect the 9-1-1 tower equipment against all nine of the most common power problems, including outages, sags, surges, spikes, brownouts, line noise, frequency variation, switching transients and harmonic distortion.

At the same time, a high 0.9 output power factor delivers more power than the vast majority of competitors' models, enabling the 9155 to power more equipment than other UPSs of equivalent power rating.

Furthermore, the 9155's space-saving design proved ideal for the county's tower locations. Occupying just three to six square feet of floor space, the small footprint supports more location options, fast and easy installation, and lower deployment costs while preserving more space for future expansion.

"The footprint of the unit was just the right size," Lee says. "It's compact and it takes up less space than our previous models."

Another key factor for the county was the 9155's scalable architecture, which enables customers to meet current and future load requirements. Chester County was able to choose the configuration that best met its capacity and price needs, with the ability to easily scale up if power requirements change in the future. Using Powerware Hot Sync® paralleling technology, up to three 9155 modules can be paralleled for additional capacity or redundancy — with no dependence on communications wiring among the modules.

"We wanted a unit that could be expandable due to our changing needs for public safety radio requirements," Lee confirms.

Also high on the county's list of requirements was ease of maintenance. The 9155 delivers on that front, as well, beginning with installation of the units — which proved to be simple and inexpensive, in part thanks to the fact that the each 9155 is ordered with a customer's choice of more than 19 different receptacle types.

An Eaton factory warranty, exceptional technical support and optional extended service plans provide further investment protection and peace of mind. Chester County opts to put a service plan in place for every unit at the completion of the standard warranty period.

"The service plan will save us time in the long run by not having to wait for a purchase order and approvals to have work performed," Lee explains. "We've had good customer relations, quick repair time and great technical assistance from Eaton. I have been very satisfied with the ease of contacting the company for maintenance, service and scheduling."

The county is also enjoying long battery life for its units, compliments of Eaton's exclusive ABM® technology, which significantly increases battery service life compared to conventional trickle-charging. ABM uses an innovative, three-stage charging technique that offers prolonged rest periods between charge phases, as well as temperature-compensated charging to optimize recharge time.

"We have experienced numerous outages since the installation of the units," Lee reveals, noting that the startup of one 9155 was literally completed minutes before a two-hour outage occurred. "The units always perform their functions."

Results

With the Eaton units in place, Chester County is able to rest assured that its critical 9-1-1 communications will always respond when needed. The 9155 units allow the county to:

- Protect critical radio communications equipment at tower sites
- Preserve space with their compact design
- Easily expand if the county's power requirements change
- Gain peace of mind with ongoing support from Eaton



Eaton 9155

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