A Customer Success
from the Experts in
Business-Critical Continuity™

Greater Harris County 9-1-1

Greater Harris County 9-1-1 (GHC 9-1-1) is the largest 9-1-1 system in Texas and the second largest in the United States. GHC 9-1-1 provides 9-1-1 service for the approximately 3.9 million residents in Harris and Fort Bend Counties, and the 48 cities, including Houston, within those counties. There are approximately 8,000 to 10,000 9-1-1 calls daily within the GHC 9-1-1 territory.

Background

There is no margin of error in 9-1-1 communications. That's why the Greater Harris County 9-1-1 Emergency Network (GHC 9-1-1), selected a dual- redundant power system for the new Houston Emergency Center (HEC). The power system can support continuous operation for approximately four hours on UPS battery, despite the presence of two independent power feeds and three backup generators. The HEC is the facility that receives and dispatches all emergency calls for the citizens of Houston.

Case Summary

Location: Houston, Texas

Products/Services: Dual-redundant Liebert Series 600 UPSs with Liebert Static Transfer Switches; Redundant Liebert GXT UPSs in Liebert Foundation MCRs for remote communications centers; Liebert SiteScan monitoring

Critical Needs: Deliver uninterrupted power availability to countywide 9-1-1 communications network.

The Results

- Uninterrupted access to emergency communication systems
- Fast replacement of flood-damaged equipment through local support
- Visibility into remote systems eliminated unnecessary service calls

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EMERSON™
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The Solution

GHC 9-1-1 chose Liebert and Bud Griffin & Associates (BGA), the Liebert representative in Bellaire, Texas, to help create a continuous availability infrastructure for the network. Through BGA, Liebert supplied the UPS, power distribution and switching equipment as well as the monitoring systems that ensure power availability for GHC 9-1-1.

The Power to Respond

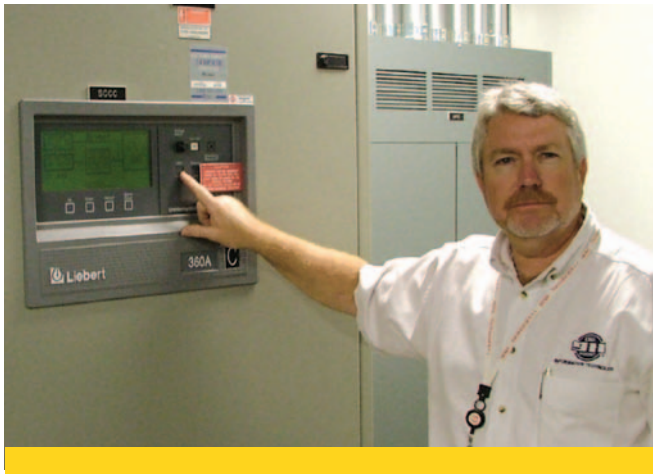
The Houston Emergency Center is served by independent power feeds from separate substations, with backup power provided by three 1750 kW generators. Six ASCO Series 940 automatic transfer switches combine automatic power switching with disconnect and overcurrent protection on the utility source.

Each power input feeds a redundant UPS system, providing two layers of redundancy: at the system level and within each UPS system.

Each UPS system features two Liebert Series 600 systems with load-sharing controlled by a Liebert System Control Cabinet. A Liebert SmartSwitch provides rapid switching between the two power feeds, while the Liebert LBS (Load Bus Synchronization) monitors and synchronizes the output of the two systems. The UPSs are equipped with 20-year batteries capable of providing up to four hours of runtime for the communications center.

"The 20-year batteries were an option we determined would offer considerable value as they reduce system maintenance requirements," says Dan Darnell, system administrator at GHC 9-1-1.

"With standard batteries, we would plan on replacing them every four years. Twenty-year batteries allow us to eliminate four replacements."



"Overall we felt [Liebert] was the best designed product. The MTBF rates are exceptional and we are very pleased with their communications capabilities…It was clearly the right choice for an application as important as this one."

Dan Darnell, systems administrator,
Greater Harris County 9-1-1

Each UPS system outputs to a Liebert Static Transfer Switch, which provides switching downstream from the UPS and feeds Liebert Power Distribution Units (PDUs). The Liebert PDUs feed the electrical panels that power the communications stations. During normal operation each UPS system is providing power to half of the communications stations. If there is a problem with either system, the other system is capable of carrying the full load through load bus synchronization.

GHC 9-1-1 also uses four Liebert Nfinity UPSs in a redundant configuration to protect its training facility and Command Center. The training center is critical to GHC operations, as it also serves as a backup call center.

Generator/UPS coordination is tested weekly to ensure proper operation. Liebert SiteScan, a Web-based monitoring system, is used to provide continuous real-time monitoring of the power system at the HEC.

Liebert Global Services provides regular preventive maintenance services for the headquarter's equipment.

Extending Continuous Availability to Remote Centers

In addition to the Houston Emergency Center, GHC 9-1-1 is responsible for providing the 9-1-1 communications network for 46 other municipalities within the area it serves. These municipalities have their own call centers, which are monitored from the state-of-the-art Command Center in Houston.

Redundant Liebert GXT UPS systems in a Liebert Foundation MCR provide power availability for these remote systems. The Foundation MCR is a self-contained enclosure that can integrate power protection, environmental control and monitoring in a secure cabinet. For the remote communications centers, the adaptable Foundation MCR is equipped with two Liebert GXT UPSs with batteries, a heat rejection unit and Liebert SiteNet Integrator with Load Control Module.

Liebert SiteNet Integrator provides SNMP alarm traps for smoke detection, leak detection, temperature inside and outside the cabinet, load on the UPS, battery runtime and door ajar. Alarm and status information from the various remote centers are consolidated and monitored through HP OpenView at the Command Center in Houston.

"The monitoring capabilities on the Liebert equipment have been extremely valuable to us," says Darnell. "Now, if there is ever a problem with a remote unit we can see what is going on at the operations center instead of driving 30 miles in the middle of the night. The automatic battery test program on the Liebert GXTs has also been a big time saver for us."

The Value of Local Support

GHC 9-1-1 has benefited in a number of ways from having a local representative like Bud Griffin & Associates. The most dramatic example of the value of local support occurred when 40 inches of rain fell in the area and subsequent flooding damaged the UPS systems supporting two of the network's major call centers.

"At that time, we had non-Liebert units that were damaged in the flood and we needed to get the 9-1-1 centers back on-line pronto," says Darnell. GHC 9-1-1 turned to BGA, and they responded immediately. "They were able to pull units out of their warehouse and get them on-site in a matter of hours. I was told to get the center back in operation by 3 a.m. With BGA's help, we were online at midnight. That wouldn't have been possible without local support."

The Value of Liebert

"We evaluated a number of UPS systems before we settled on Liebert," Darnell concludes. "Overall we just felt it was the best designed product out there. The MTBF rates are exceptional and we are very pleased with the communications capabilities."

Service also played into Darnell's decision. "When you consider that Liebert has the best service organization and a local rep like BGA that stands behind their product, it was clearly the right choice for an application as important as this one."

So far it has proven to be the right choice, as the Liebert systems have eliminated service-affecting failures for Greater Harris County 9-1-1 Emergency Network. And that's what Dan Darnell really cares about.

For more information on Liebert technology, visit **www.Liebert.com**