

# Critical Fire Protection for a Critical Facility



A 449,000-square foot facility of offices and data centers, not to mention a critical infrastructure of telecommunications equipment, was in serious need of a fire alarm upgrade.

“The old system had issues with parts availability and with service in that the manufacturer didn’t have anyone left on staff that had the skills or knowledge required to work on the system,” said Laura Graham, who handled facilities management at the time.

## Solution Upgrade

Recommended by its own project management division with input from the company’s architectural firm, the owner put out a bid specifying a Farenhyt system from Silent Knight for the upgrade.

“From a property management stand point, we just wanted a system that was fully operational where if there was a problem it could be easily and cost-effectively addressed,” said Graham.

Demands of the new fire alarm included extreme reliability to address the mission-critical aspect of the facility’s operations, as well as ease of use and maintenance. The building’s huge expanse, plus the 2,500 people who regularly work there, were going to make this retrofit particularly difficult.

Jamie Haislip, owner of Haislip Corp., an electrical contractor and fire alarm dealer in Chantilly, Va., earned the bid to retrofit the facility’s new system. “It’s an important building, which contains critical platforms that have major long distance lines going through there,” said Haislip.

Facility management also required the system to be easily expanded to accommodate any changes to the building’s operational platforms with an option to add mass notification capabilities in the future.

Haislip designed the facility’s new system around the Farenhyt IFF-2000VIP, an addressable fire alarm control panel with an inte-

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– Laura Graham, Facilities Manager

grated voice evacuation system manufactured by Silent Knight.

“We knew it would always satisfy anything the owner would want in the future,” said Haislip. “It would give them enough room to grow so it wouldn’t give them any problems.”

The Oakton facility is a large, flat building, actually comprised of four buildings joined with an atrium in the center. More atriums are located throughout, making the intelligibility of emergency communications a challenge.

Haislip engineered and installed a five-node fire alarm system with 859 initiating and 841 notification devices. Starting from the main panel, the network was able to reach out to four other fire alarm control panels in major areas of the complex using 40 remote modules to support fast data communications along the network’s extensive serial communications line or SBUS.



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“The SBUS allowed us to remotely mount these panels. This, in turn, reduced voltage on our lines,” said Haislip.

To further mitigate the enormous size of the project, Haislip incorporated the VIP-125 amplifier to simplify the fire alarm voice evacuation system’s design. Containing its own power supply with battery backup and up to eight speaker circuits, the 125 watts of amplification power produced by the VIP-125 can push audio communications to speakers throughout mid- to large-scale fire alarm voice evacuation systems. This one-of-a-kind amplifier can be mounted up to 6,000 feet away from the main control panel for convenient placement and to greatly reduce speaker circuit wire runs.

“With the large open atrium areas, the intelligibility of the speaker systems was particularly important,” said Haislip.

Three pre-action suppression systems protect several data center laboratories and one large vault of telephone and data communications equipment within the Oakton facility. Haislip tied the three individual systems to the Silent Knight network to coordinate the monitoring and response of all systems.

Also connected to the facility’s Farenhyt fire alarm network are two Honeywell Analytics IR (infrared) flame detectors, monitoring the building’s main generator and fuel tank.

### Challenges of Change

A number of test labs in the building required under-floor protection, necessitating remote annunciators. That specification was added well into the in-

stall, said Haislip, but it was easy to add the extra equipment into the system. “It’s an affordable expansion – you only buy what you need,” he explained. “It was not expensive.”

The Americans with Disabilities Act (ADA) typically requires all strobes able to be seen within an area to be synchronized. Given the large three-story atrium connecting the four buildings, the local fire marshal required all strobes on all levels of all buildings to be synchronized, which Haislip noted, was an easy task for the IFP-2000VIP system.

According to Haislip, a slight panel modification, software additions and the inclusion of Local Operating Consoles and more speakers could make for an easy emergency communications system upgrade for the Oakton facility. Considering the building’s dynamic work environment, any part of the Farenhyt system can also be easily altered to support building changes.

“Platforms come and go in this building. Let’s say you add a data center: we have an SBUS in the vicinity – you simply add a panel and the devices you need in there, and it would take care of the whole area,” said Haislip.

Haislip said his experience with the IFP-

2000VIP showed that he could use Farenhyt systems for projects well beyond small- and medium-sized.

“This allows us to do larger projects. It can perform in a large building environment – it’s certainly expandable, we’ll never overload this system,” said Haislip. “We don’t get callbacks on that equipment – and its simplified installation just makes it easy for us.”

### Proven Performance

Nearly a year after the installation was complete, the Oakton area was hit with a heavy snowstorm that included lightning. The facility experienced its second extensive power failure in 30 years, which took out the building automation system. Power fluctuations burned out three electrical motors in the facility’s central plant, causing them to smoke.

“Our fire alarm caught the smoke before the motors broke out in real flames,” said Haislip. “After surviving on battery well beyond its designated limit, it was still able to evacuate the site.”

“There’s a lot of sensitive equipment, silently working in the background,” exclaimed Haislip. “It’s there to help them protect their people and equipment, and when things went wrong, it did its job.”



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