



## ***School District Speeds Emergency Response with Advanced, Nonproprietary Fire Alarm Solution***

When Independent School District (ISD) 196 needed to replace its aging, problematic fire alarm systems across the 110-square-mile district, it had two main criteria to help keep its 28,000 students as safe as possible: a non-proprietary system capable of being installed, tested and maintained by any certified installer, and the ability to pinpoint the location of alarms to speed the response of first responders.

A public school district located just outside Minneapolis, Minn., spanning the southern Twin Cities suburbs, ISD 196 serves students in early childhood programs through 12th grade. It is the fourth-largest school district in the state, covering seven cities and towns. The district has 18 elementary schools, six middle schools and four high schools, as well as additional specialty learning centers throughout the district.

### **Aging System Issues**

Like in many communities across the country, the ISD 196 school facilities are aging, along with their fire alarm systems, installed more than 20 years ago. The older systems were proprietary and used parts that are now obsolete. In addition to maintenance issues, the systems were in danger of not complying with the state's stringent fire protection codes for schools.

The district added sprinkler systems to the schools several years ago, rendering some of the previously-installed equipment unnecessary. Yet, the older parts remained in place, making testing more complicated, time-consuming and costly than it needed to be. With no replacement parts to fix or update the antiquated systems, ISD 196 was left with no choice but to completely rip-

and-replace the fire alarm systems, wiring and all. The district started the process in 2009 with the schools that were most in need as dictated by the fire marshal.

"Our first mandate when we went out to bid is that the system not be proprietary," said Michael Schwanke, facilities manager for ISD 196. "We wanted the ability to call our local distributor and installer, and get a replacement part if something failed. We did not want to have to go through the process of replacing everything again or rerunning wire because parts couldn't be found to fix the issue."

The older systems were hardwired, high-voltages systems with 110-volt smoke detectors, and the district wanted to move to a simpler, processor-based system that was easy for the schools' facilities managers to operate. In addition, the previous systems were older non-addressable, poorly-zoned systems—meaning if an alarm was triggered, the fire department would need to go in search of the problem from area to area.

"When we started to have problems more and more frequently, such as failed horns and strobes, we involved the fire marshal and were able to get approval to have some of the systems replaced," Schwanke said.



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### Simple System with Advanced Features

An RFP process led ISD 196 to AFC Technologies, a local Minnesota low-voltage electrical contractor, offering a nonproprietary, commercial fire alarm solution from Silent Knight. Selling through numerous security equipment distributors across the U.S., Silent Knight equipment is viewed as always being readily available and competitively priced.

With no specialty wiring requirements, Silent Knight systems are designed for both new installs and retrofits in mind. However, ISD 196 decided the advanced age and condition of the systems warranted replacement of all existing wire, as well as the control panels and field devices.

“Some of the systems were so old that trying to retrofit them didn’t make sense,” said Bill Karels, owner of AFC Technologies, which bid on the ISD 196 projects using the Silent Knight system. “Throughout the district, they had problems with control panels, deficiencies in strobes and decibel levels, and so on. They needed a simple, state-of-the-art system where they could easily find and install replacement parts if needed.”

AFC Technologies has replaced systems in eight of the ISD 196 schools, standardizing with the IntelliKnight 5820XL addressable fire alarm control panel. Being Silent Knight’s largest control panel, the 5820XL can easily cover the largest facilities, while offering plenty of capacity to handle future additions. The modularity and exclusive distributed intelligent power design of all Silent Knight systems allows for a customized fit that delivers a high degree of protection and many cost-efficiencies.

The schools’ new systems comprise basic “horns and strobes” for notification, but the Silent Knight system is flexible, allowing the district to easily add advanced features such as voice evacuation, mass notification and carbon monoxide detection, if required in the future.

### The Deep Freeze Test

Since installation of the Silent Knight system, the district has had fast fire detection that has been trouble-free. The new addressable system’s accuracy of pinpointing the location of an emergency event has significantly improved response times of local fire departments.

Given the system’s flexibility, the district was able to tie in a relay switch that allows each school to go into lockdown mode in an emergency. With the touch of a button, administrators can automatically close and lock all fire doors within a school, providing containment if an issue should occur.

The new systems have not yet been exposed to a real-life fire emergency, but they did jump into action when consecutive

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days of subzero temperatures in Minnesota froze sprinkler heads at one of the schools, setting off the sprinkler system.

“The alarm was activated and because of the addressable system, the fire department was able to quickly respond and disable the sprinklers, saving thousands of dollars in damage,” Schwanke said. “If the fire department wasn’t alerted and didn’t know exactly where to go when they got there, the building would have been flooded. That was a huge benefit of having the new system in place.”

The School District is continually reviewing the status of the fire alarm systems within its remaining schools and will potentially be replacing those systems with the Silent Knight systems as warranted.

“With a fire protection system, you really want it to last the life of the building,” said Karels of AFC Technologies. “You might need to upgrade the software or replace a device, but you want to position yourself so that you are not forced to start over. With the Silent Knight system, ISD 196 is positioned to avoid that from happening, and has the ability to add in more advanced features down the line if its requirements change.”



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Silent Knight • 12 Clintonville Road • Northford, CT 06472  
203-484-7161 • [www.silentknight.com](http://www.silentknight.com)