

WAREHOUSE FOR DOCUMENT STORAGE

5 Case Study



A 300,000-square-foot warehouse in Elgin, Illinois, used for long-term storage of government documents is being protected by VESDA. Integrated with a pre-action sprinkler system, VESDA air-sampling smoke detectors provide the earliest possible warning of a fire so appropriate actions can be taken to prevent damage or loss.

BACKGROUND

Sprinkler systems are designed to save lives, contents and buildings from fire, but the contents of those facilities are subject to water damage from a false sprinkler activation," explains Keith Frangiamore, vice president of operations for Fire Safety Consultants, Inc. "Water damage in a setting like this where there are thousands of boxes of stored documents would be astronomical. Therefore, you have to consider protecting what you need to protect and balance that with the cost of a false activation.

The warehouse in Elgin is subdivided into three distinct chambers, each with ceilings that are 34 feet high and containing approximately 100,000 square feet for multi-row rack storage with three levels – a grated floor and two catwalks. Each chamber is protected by 64 VESDA VLS detectors along 8 sampling lines connected to a Proactiv panel.

QUICK FACTS

Project

Warehouse, 300,000-square-foot facility subdivided into three 100,000-square-foot storage areas

End User/Location

Elgin, Illinois

Warehousing

Document Storage

Consulting Firm

Fire Safety Consultants, Inc.

Solution

VESDA VLS

"I've always been impressed with VESDA and the ability to adjust the sensitivity of the detectors to the environment and varying conditions of the protected area, which you can't do with standard spot detectors. This feature is especially important when it comes to protecting historical and high-value assets."

— KEITH FRANGIAMORE,
CERTIFIED FIRE PROTECTION SPECIALIST VICE PRESIDENT
OF OPERATIONS AT FIRE SAFETY CONSULTANTS, INC.

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THE SOLUTION

In this case, and in others where there are high ceilings, the VESDA sampling pipe network can be designed to ensure optimum coverage even if smoke stratification occurs. The pipes also can be placed near air-handling or heating/air conditioning units to ensure smoke particles in those areas are detected early. In addition, the sampling pipe network must be designed to monitor air flow in voids under the floor, according to Frangiamore.

THE BENEFITS

- High sensitivity that can be set according to environmental conditions
- Flexible sampling pipe design
- Lower total cost of ownership
- Easy maintenance

THE OUTCOME

“Hundreds of spot detectors would have been required to protect this space and all the trapped areas,” he explained.

“However, we only had to use 64 VESDAs in each chamber, so the total cost of ownership is much lower, and false alarms and subsequently false sprinkler activations can be avoided because of the detectors’ high sensitivity.”

Of course, VESDA systems need to be tested after installation and periodically thereafter, notes Frangiamore. However, ongoing maintenance is “very easy” because the control panel issues a warning when the filters need to be replaced.

ABOUT INSTALLER

Fire Safety Consultants, Inc. (FSCI) specializes in fire protection consulting for municipal building departments and fire departments throughout the United States.

They are one of the largest private fire protection plan review service companies in the country, performing fire protection plan reviews for more than 185 municipalities and fire departments as well as many private companies throughout the U.S. and the rest of the world.

FSCI’s principals and senior consultants are involved in the code development process on the state and national level. Some of these committees include NFPA 13, NFPA 24, NFPA 72, NFPA 101, NFPA 291, NFPA 1201, NFPA 1250, NFPA 5000, and The International Building Code and International Fire Code.

Honeywell Building Technologies

715 Peachtree St. NE
Atlanta, GA 30308
honeywell.com

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