CASE STUDY



> **This BDA install from Pinnacle Fire was very successful and a very smooth process.**
>
> Bryan Grosch, Atlas Electric

Cargill Protein

Wichita, KS

ABOUT In December, 2018, after two years of construction, Cargill Protein unveiled its new headquarters, a 188,000 sqare foot office complex in Wichita, KS. Cargill Protein represents Cargill Inc.'s meat, poultry and food service distribution businesses. The $75M project was built on the former Wichita Eagle Newspaper building site, and was designed and constructed to meet Leadership in Energy and Environment Design (LEED) Silver certification standards. In addition, the project incorporated low E-glass, and several hundred pounds of recycled and reclaimed contents.

The 4-story headquarters was built to accommodate over 950 employees and visitors, and is equipped with ultra-modern amenities and cavernous spaces with lots of windows for natural lighting. Open concept areas featured wood, concrete and steel finishes.

Engineers specified that the new Cargill HQ would need a state-of-the art, comprehensive fire alarm system complete with extensive emergency communications features, and offer first responder radio coverage compliance. They also required that the entire system be networked into one fully integrated fire and life safety system. Engineers partnered with Pinnacle Fire & Automation, a certified and authorized NOTIFIER Engineered Systems Distributor (ESD) located in Wichita, KS.

CHALLENGE The key challenge presented in identifying a system that was comprehensive enough to cover the extensive structures and qualify as a fully certified "In building 2-Way Emergency Radio Communications Enhancement System" (ERCES) that met UL listing and NFPA/IFC code requirements. In addition, it had to establish at minimum 99% first responder radio frequency coverage in critical areas, despite extensive concrete and low E-glass features, and had to be installable in phases as key construction elements were put in place. Although builders and AHJs were familiar with communications solutions provided in past installs through radio shops, it was imperative that this new-build featured a fully NFPA/IFC code compliant and UL listed solution to ensure first responder, staff and visitor safety.

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SOLUTION

The NOTIFIER ONYX Series fire system utilizing Noti-Fire-Net™ was chosen for its ability to network together both large, complex structures. ONYX Series NFS2-3030 and NFS-320 fire alarm panels with Digital Voice Command (DVC) were installed, and integrated with a comprehensive ERCES, Bi-Directional Amplifier (BDA) life safety system to ensure 100% radio frequency coverage. This solution provided:

- A state-of-the-art, seamlessly integrated fire and life safety system
- A NFPA and UL2524 compliant emergency radio enhancement system
- 100% coverage for first responder radio communications
- Customizable voice commands for targeted actions such as active shooter threats
- Flexibility in installation to follow construction sequencing
- First NOTIFIER BDA system in Kansas
- Superior service from best-in-class local distributors

NETWORKED FIRE ALARM PANELS FOR COMPREHENSIVE COVERAGE

Pinnacle Fire installed the NFS2-3030 panel in the main headquarters building, along with amplifier panels for Digital Voice Command. Being able to customize emergency response messages to individual situations such as active shooter, controlled evacuations, etc., was of utmost importance to safety personnel. The NFS-320 panel was installed in the separate parking garage building and networked together into a singular fire command center.

SMART DESIGN AND BDA PLACEMENT FOR MAXIMUM RADIO COVERAGE

During installation, fire marshals noticed weak radio signals during their onsite visits. Being aware of new code regulations, they requested that Pinnacle Fire conduct a comprehensive signal survey to determine exact areas of weak RF signal propagation. Based on this survey, Pinnacle Fire designed and expertly placed three 800MHz Bi-Directional Amplifier antennae throughout the four-story building. When resurveyed, they were able to achieve 108 dBm of isolation, well above the minimum requirement of 20 dBm, and 100% coverage in critical areas of both buildings. "Engineers had written a radio signal amplifier into the project specifications. However, even the AHJ knew of new code requirements that would soon be adopted and made sure testing and code compliance was going to be enforced," states Chris Brown, Operations Manager for Pinnacle Fire & Automation.

TAKING CARE OF FIRST RESPONDERS FIRST

"This system is designed specifically for first responders and the fire department. These guys are used to inspecting systems for property and tenant safety. But having a system that keeps them safe even in the deepest, darkest corners is of utmost importance," states Jared Brown, Service Manager for Pinnacle Fire & Automation. "As a fire and life safety integrator, you have to put in the time to become an expert at radio technology and its life saving implications. As an expert, you can make the best and safest recommendations to fire marshals and AHJs. This is about saving lives," concluded Zach Brown, Project Manager for Pinnacle Fire.

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