

Case Study: St. Anthony Hospital

Intelligent Photoelectric Smoke Detectors, InnovairFlex™ Duct Smoke Detectors



Hospitals are complex buildings in terms of fire safety — quite different from any other type of building. As a result, in a dedicated patient-care environment, fire systems can be very complex and several common practices may not apply. So the task of designing and implementing a hospital fire system can be a challenging one. One of Denver's oldest and most progressive hospitals, St. Anthony Central, will be taking on this task as the hospital embarks on a new period of its history by constructing a new campus in Lakewood, Colo., to replace the existing facility.

As it has for its more than 100-year history, the hospital will continue showcasing the latest advancements in medicine. It will also potentially become the largest hospital in the Western U.S. The main structure will consist of two towers: the three-story Ortho Tower, which is in phase 1, and an eight-story Hospital Tower, which is in phase 2. That's 880,000 square feet upon completion — with six to seven more medical office buildings anticipated.



When it came to the fire and life safety systems, coordination was necessary between the electrical contractor and the fire and life safety systems contracting company, which was chosen by the electrical contractor and the electrical engineer. For Commercial Specialists of Southern Colorado, LLC, it was just another job that happened to be a big one — albeit with some requirements unique to the hospital setting. “We are very methodical about how we put all this together, how we engineer it, how we install it, how we close out the job,” says Dean Doiron, executive manager of Commercial Specialists. “We go through the same processes as we do on a strip mall; all the processes are the same from the beginning to end. It's just that the magnitude changes.”

Key to designing an effective fire alarm system in a hospital is the recognition that the system is not a stand-alone entity; it is a component of the overall fire safety solution. Although it is common practice to fully evacuate other buildings, such as a school, when the fire alarm sounds, many occupants of a hospital cannot simply get up and leave. Unless it is absolutely necessary, it is unrealistic to evacuate intensive care patients and others in elderly care, for example, as well as surgeons engaged in intricate procedures at the time of the alarm. Therefore, for a hospital fire system to operate successfully, a great deal of information is required, not only about the layout and structure of the building, but also the activities that are carried out in particular areas and the interaction required with other services.

In complex, modern hospital buildings, code is another significant factor. The codes are all structured to apply to a hospital's unique

disposition. What took this project up a notch, however, was that the West Metro Fire Marshal follows an amended IBC 2006 code that calls for full detection in every room. “In the 27 years I've been involved in this business, this is the largest set of shop drawings we've ever done. It was about 70 full-sized sheets just to design the fire alarm system,” states Doiron.

In all, the project included about 2,500 smoke detectors, including 400 for the Ortho Tower and 275 duct smoke detectors. Ninety-eight percent of the 2,500 detectors will be addressable.

The size and magnitude of the design dictated how much control and field equipment was necessary to accommodate the work needed. The System Sensor fire and life safety addressable devices are supported by NOTIFIER® control panels, which all feed into one network. All of this was installed and tested without a hitch — bringing the Ortho Tower fully operational for its opening in spring 2010.

Fire and life safety integration fundamentals, backed by methodical and meticulous planning, were key to this seamless creation. “We were able to leverage our expertise of fire and life safety system integration to enable a smooth transition,” Doiron says, “by bringing together code information and system requirements for a unified and efficient fire and life safety system.”

A Duct Smoke Detector with Unmatched Flexibility

Overcome mounting constraints with the InnovairFlex™ duct smoke detector, which can accommodate multiple installation footprints. It offers superb false alarm immunity, a broad temperature range and humidity ranges, easily visible status indicators and a readily accessible test feature. For increased ease of installation, technicians can now install the new sampling tubes for InnovairFlex from the front or back, without using tools, by snapping them into place. With its unmatched flexibility, InnovairFlex can adjust to fit any application.

For more information, visit www.systemsensor.com/flex.



advanced ideas. advanced solutions.™

8 0 0 / 7 3 6 - 7 6 7 2
www.systemsensor.com