Case Study: **Presbyterian Tower at OU Medical Center**

Loud and Clear Environment of Care

Project:

OU Medical Center
Oklahoma City, OK

1287 **Speakers**

986 **Strobes**

85 **Speaker** Strobes

619 **Smoke & Heat** Detectors

246 **Duct Smoke** Detectors

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Hospital System **Improves Emergency Response**

As the only Level One Trauma Center in Oklahoma, OU Medical Center (OUMC) provides the highest level of care while showcasing the latest advancements in medicine. OUMC includes a Children's Hospital, a Women's & Newborn Center and many other patient care areas, spanning approximately 2.8 million square feet in various buildings in the Oklahoma City Metro Area.

To this end, enhancements of OUMC's Presbyterian Tower, which has eight floors and three interstitial floors, recently completed renovations to ensure that patients and staff would have the best, most comprehensive services available to them, including a complete overhaul of the fire and life safety system.

"When we walked through this high-rise building, we quickly realized that a complete switch out and build out of the fire and life safety system was needed," explains Tracy Wagoner, project engineer at Corporate Energy Consultants (CEC) Ltd., Lenexa, Kans. "This involved a design placement from the ground up for an entirely new stand-alone fire alarm and mass notification system."

"At the time, OUMC did not have a comprehensive fire alarm system," adds Richard Felton, district general manager at Firetrol Protection Systems Inc., Oklahoma City.

"Multiple fire alarm systems were in place covering the majority of their building space."

OUMC wanted to capitalize on the benefits and integration of emergency communications systems (ECS).

"When we originally designed the Presbyterian Tower, NFPA 72® 2002 was the code, and the requirements for intelligibility and mass notification were not yet in place," says Wagoner. "However, because the military began enforcing intelligibility requirements, we had a starting point of reference. We reached out to System Sensor for recommendations in order to take it one step beyond code compliance and jump into future code compliance."

The OUMC facilities communication department was concerned with the integrity of the center's paging systems. OUMC liked the fact that the regulated and code-driven reliability of a fire detection system makes it a highly effective platform for an ECS solution, as the rules, testing procedures and installation practices have already been established. The caveat was OUMC wanted to implement a microphone for sending code pages into designated areas. In essence, OUMC sought an intelligible, wide-reaching system for their code pages that would be part of the ECS.

The key was designing the voice evacuation system to serve as the paging system for both manual paging and automatic paging, which would be integrated with other systems within the facility. This involved utilizing about 1,300 System Sensor ceiling-mounted speakers integrated with the fire detection system through the NOTIFIER® 3030 panel. These speakers were spaced more closely than in a standard voice system.

"In the old days, to space more than just one speaker with every strobe in the corridor was unheard of," explains Felton. "With more speakers, the majority are tapped at lower ¼ watt setting. That way, it was more intelligible even though it's at a lower volume and the quality of the sound of those speakers is incomparable....Not only can the messages be heard, they are heard crystal clear at ¼ watt."

"Durability of the speakers has been top notch!" Felton continues. "It is used every single day. It's not a voice/evacuation system that gets tested just once a year; they use it for multiple manual pages, and it sounds great."

With a full system install in a fully functional, occupied hospital, there were coordination challenges to overcome.

"There wasn't really an issue maintaining the old fire system other than when we would come across areas where it wasn't working. In that case, we were servicing and trying to improve the operability of the existing system as we found issues while installing the new system," says Felton. Once the new system went live, the old system was removed.

One of the keys to this project was OUMC's involvement and coordination with everyone involved. "We were able to enter patient corridors upon permission from the chiefs of staff of the floor as patients left their rooms for treatment or therapy," states Wagoner. "The facility was fantastic. We would enter that floor; install wiring, back boxes and devices; label those devices as not in service; and then exit those rooms. It was a fairly amazing process."

> "The **back plates were easy to install** and had the added benefit that we **didn't have to unwire the entire device** [for testing and service issues]"
>
> **— Richard Felton,** District General Manager at Firetrol Protection Systems Inc.

Actual device installation was simplified with System Sensor's devices. "The back plates were easy to install and had the added benefit that we didn't have to unwire the entire device [for testing and service issues]," says Felton.

The outcome of upgrading the fire and life safety system into a Fire/ECS/MNS is an integrated, unified system for critical communications, physical security and life safety, while building a foundation for future expansion within the healthcare campus. The OUMC staff knows that they can rely on the systems and that the environment of care is safeguarded.

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