

Multi-Million-Dollar Marriott Brings Sophisticated Fire Protection to Downtown Syracuse

Marriott's new hotel in Syracuse, N.Y., combines two of the company's recognized names – Courtyard and Residence Inn. The new hospitality project is the largest non-office entity built in the city in more than 25 years, and sophisticated fire protection is an integral part of its construction.

Located in the heart of Armory Square in downtown Syracuse, the two hotel brands have separate entrances and registration desks, but share amenities such as meeting and pool facilities. The \$27 million facility, appropriately named Marriott Armory Square, is a seven-story high-rise comprising 180 rooms, all just steps away from restaurants, shops and the popular arts and entertainment district.

The Fire Alarm Challenge

Engineers designed the fire alarm system for the hotel according to Marriott's stringent corporate requirements, and in conformance to local and National Fire Protection Association (NFPA) life safety codes. Adding challenge to the installation was a quick turnaround schedule. Syracuse Time & Alarm Co. was tasked with deploying the system in an extremely compressed time frame and in close cooperation with other construction trades working concurrently on the building.

Syracuse Time & Alarm is a 30-year-old company that specializes in the design, installation and integration of life safety, security, time management and communications systems, and has NICET-certified technicians on staff to help with exacting fire protection specifications.

At one point, Syracuse Time & Alarm had to complete 350 hours of work in just four weeks, involving two technicians and a project manager. The fire alarm integrator also ensured they stayed in-step with the general contractor, electrical contractor and engineer of record.

"Collaboration between all parties involved is critical in a fast-moving and complex project such as this. In fact, close working partnerships are paramount to success," says Mark Simpson, Sales Manager, Syracuse Time & Alarm.

Integrated, Distributed System

The Marriott Armory Square uses an E3 Series® fire alarm system by Gamewell-FCI to supply an integrated, distributed fire protection network. The expandable system is designed for a wide variety of environments, ranging from small office buildings to complex high-rises.

The E3 Series system at the Marriott is connected to 600 initiating devices throughout the hotel, including smoke detectors, pull stations, heat detectors,



monitor modules and other fire alarm system components. The platform also interfaces with elevators for automatic recall in the event of a fire and with smoke hatch releases located above the stairwells.

The networked system includes a main control panel on the first floor and remote annunciators at each of the Courtyard and Residence Inn entrances, plus another at both hotels' registration desks. A separate manual smoke purge system annunciator is located at the fire department command entrance, located at the Residence Inn.

A New Approach: Combining Detection

The multi-channel system at the Marriott property includes full automatic operation and detection throughout all public areas and the entire hotel. The hotel common area hallways are covered by 4-Warn/CO detectors by System Sensor, which incorporate four sensing elements into one cost-effective unit to quickly detect smoke, carbon monoxide (CO), flame and heat, while verifying emergencies and deterring false alarms. The 4-Warn/CO detector's addressable sensing technology meets new CO detection legislation in nearly all 50 states.

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Hotels, specifically, face stringent detection requirements. Major cities throughout the state of New York are part of the increasing number of municipalities that now require CO detection, in addition to fire detection, in many newly constructed hotel guest rooms and commercial sleeping occupancies. Hotel CO codes commonly require an audible, in-room alert when either fire or CO is detected. The detector must also report to a panel that reports to a central station, with fire and CO alerts being communicated independently.

Property owners and hotel management teams benefit from the aesthetics of combining detection of fire and CO, plus notification for both, into a single unit. This approach reaps a savings of time and money through a reduction in installation and maintenance costs. The supervision of all devices also ensures a signal will be sent by the fire alarm to the central monitoring station if a guest were to damage or remove any fire alarm detection device.

At the Marriott property, sounder base units are initiated by local alarms and also by building alarms, which are synchronized with the building alarm in case of a general alert. The system provides full coverage throughout the hotels and monitors the sprinkler system as well. There are manual pull stations at exit ways and general evacuation signaling, using compliant horns and strobes.

Marriott requirements included a smoke purge system to ensure stairways remain free of smoke in the event of a fire, when occupants are required to evacuate via the stairs. Pressurized doors keep smoke out, and the purging system pushes smoke out of the stairwells when initiated. The system operates automatically, or manually using the purging system annunciator at the fire department command center.

Intelligent Turnkey Operations

An alternative approach would have been to use a separate intelligent control system, installed by the energy management contractor, to operate the smoke purge and evacuation system. However, the E3 Series fire alarm system is UL-listed for smoke control and offered the needed intelligence to seamlessly connect to and control the system.

“We saved an immense amount of wiring and duplication by tying and integrating it into the E3 series system,” says Simpson.

Programming the system comes at the end of the job, and Syracuse Time & Alarm had to adjust the fire alarm system’s operation in the midst of the last-minute crunch. Reprogramming to meet the customer’s needs can be accomplished, given the E3 Series’ intelligent software configuration. The system’s modular design also made it easy to meet Marriott’s comprehensive requirements.

“The architecture is easy to work with,” says Simpson. “The programming is extremely flexible.” He also notes that the E3 Series does not require the use of shielded cable, which can be impacted by radio frequency (RF) interference.

Many competitive systems require shielded cable, but not the E3 Series.

The E3 Series expandable fire alarm system is a true peer-to-peer, token ring passing, networked system, capable of supporting up to 64 individual nodes (or 122 nodes with Gamewell-FCI’s Addressable Node Expander [ANX] board). All system status, control-by-event sequences, and fire fighter telephone signals are sent between nodes over a single pair of wires. Simpson says the Marriott hotel application in Syracuse is only using three nodes, allowing plenty of room to grow.

Dependability is an important attribute of the system, says Simpson. “The equipment just goes in, operates as it should and will work for many years for the customer,” he says. “It’s proven technology.”

After the Syracuse Marriott’s Courtyard and Residences Inn had been occupied a couple months, no problems or alarms had been reported.

“The Marriott Armory Square is very satisfied with the operation and ease of use of the E3 System,” says Jim Wefers, Hotel Manager, Marriott Armory Square. “We are comfortable with the smoke purge controls, and if some day, they need to be used, this system will be instrumental at saving lives and property.”

