Case Study: Professional Football Stadium in Dallas

Waterflow Detectors

In today's competitive market, most newly constructed stadiums include all the latest bells and whistles to accommodate demanding audiences and provide comforts for corporate partners and other VIPs. The stadiums, in turn, have rigorous fire safety systems and programs that are designed to protect and respond in the case of an emergency. With the modern advancements included in these venues, the system is challenged to provide an elevated level of protection.

The new professional football stadium in Dallas is the largest, most technologically advanced entertainment venue to date. It includes unparalleled challenges for providing protection due to its unique and massive structural features. Designed by HKS and built by Manhattan Construction, the $1.2 billion stadium features:

- Two steel mega-arches, each 1,225 feet long to form the world's longest single-span roof structure
- The world's largest high-tech HDTV-equipped LED scoreboard that extends from 20-yard line to 20-yard line
- An expansive retractable roof creating a 104,960 sq. ft. opening
- The world's largest end zone doors

According to Mark Cryer, DFW Fire Protection, Inc. project manager, the company that designed, engineered, built and installed the fire sprinkler systems in the stadium, a couple of the biggest challenges were coordinating the trades (the electrical, HVAC, plumbing and fire protection contractors) and designing the fire sprinkler systems for the dome-shaped facility because it required flexible couplings.

"There was much to consider, including the hazards, NFPA 13 code, city codes, what the owner wants, FM Global's standards (which are above everyone's), along with the products used to create the systems," said Cryer. "It's designed to meet codes. In the end, my goal is to control a fire."

A massive stadium requires extensive, yet easy to install and maintain, fire and life safety systems that will work without fail. To accommodate the latest innovations included in the stadium and the large crowds during an event required more than 70 fire sprinkler systems that included both wet and dry systems. DFW installed 68 wet systems, 1 dry system and 2 electronic pre-action systems in common areas such as the corridors, suites, offices, locker rooms and concourses.

According to Joe Severino, DFW purchasing manager, when choosing a waterflow detector for the fire sprinkler system, DFW went with its standard, reliable arsenal of System Sensor waterflow detectors.

System Sensor WFD series waterflow detectors are housed in a rugged, NEMA 4-rated enclosure. Designed for both indoor and outdoor use, the WFD series operates across a wide temperature range, from 32°F to 120°F. To simplify installation, the WFD series uses two conduit openings — one open, one knockout type — to permit easy attachment to the local alarm system. WFD products feature an adjustable mechanical retard. The retard mechanism and terminal blocking enclosing dual SPDT switches are field-replaceable.

The WFD series utilizes vane-type paddles to detect the flow of water through pipes. Models designed for commercial pipe range in diameter from 2 to 8 inches and for the 1-inch NPT connections used in residential or branch line signaling. The series provides two options for the retard mechanisms that reduce the risk of false alarms.

"Whether it's a job of this magnitude or any other size job, you want to use what's reliable and will work without fail. System Sensor will work time and again," stated Severino.

Sprinkler systems monitoring assures operation

System Sensor waterflow detectors use a paddle to monitor the flow of water through a fire sprinkler system. If a sprinkler head is activated and water begins to flow, the waterflow detector will send a signal notifying the fire alarm control panel. System Sensor supervisory switches monitor the open position of valves in a fire sprinkler system and alert the fire alarm control panel if the valve is moved from the open position.

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

SYSTEM SENSOR®

advanced ideas. advanced solutions.™

800/736-7672

www.systemsensor.com

SPCS00200 • 11/10 • #2509