EARLY WARNING FIRE PROTECTION SCORES TOUCHDOWN

VESDA-E VEA protects new state-of-the-art home for championship football team.

Case Study

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CAPITAL PROJECTS:

"The ultimate goal in any collegiate environment is safety, getting people out of the building quickly in case of a fire. In that regard, by following performance based design, I think we have created a much safer environment for our student athletes in this newfacility than if we followed the prescriptive code"

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OVERVIEW

Clemson University, is an American public, coeducational, land-grant and sea-grant research university in Clemson, South Carolina. Clemson is the second largest university in South Carolina. As of 2016, Clemson University enrolled a total of 18,599 undergraduate students for the fall semester and 4,807 graduate students and the student/faculty ratio is 16:1.

Images courtesy of Michael Robinson Photography.

Clemson's 1,400 acre campus is located in the foothills of the Blue Ridge Mountains and sits next to Lake Hartwell. The university manages the nearby 17,500 acre Clemson Experimental Forest that is used for research, education, and recreation.

Clemson is known for their American football program and current coach, Dabo Swinney, looked to take their program to the next level by embarking on development plan to build a new state-of-the-art facility. Besides being functional for all aspect of the football staff and creating a pull factor for recruits, he wanted a home for the players. Unique operational elements of the 142,500 square-foot Allen N. Reeves Football Complex include following areas for protection:

- The lobby, where Clemson's two national championship trophies reside
- 2nd level classroom areas for tutoring, leadership mentoring and career development
- Coaches' offices
- Meeting rooms
- Recruiting lounge
- Recruiting war room
- Theater
- Locker room
- Weight room (26,000 square feet – one of the largest in the country)
- Training room with indoor pools
- Players' lounge (barber shop, laundry facilities, nap room, game room, bowling alley)
- Dining room

THE CHALLENGE

Design included a new two-story complex next to the full-sized indoor football field but existing prescriptive codes made this difficult as codes require the complex and field spaces to be 60 feet apart or include a firewall in addition to fireproofing the entire facility. Additionally, security required the design to limit traffic of maintenance workers due to team performance and play confidentiality.

THE SOLUTION

Clemson turned to Jensen Hughes Inc., renowned fire protection and life safety engineering and consulting firm for construction options that would allow for the new complex and indoor football field to reside side by side. Jensen Hughes proposed a performance-based design approach, computer egress modeling software, and an innovative smoke detection technology that allowed the university to reduce project costs while increasing safety.

To optimize evacuation times, Clemson University needed a smoke detection technology that allowed for expedited notification. Other considerations when selecting a protection technology were security concerns – staff needed to limit traffic of maintenance personnel within the facility zones to maintain the equipment.

Ultimately, the technology recommended for use was advanced smoke detection VESDA-E VEA for a number of reasons. VEA provided early warning in the event of a smoke alarm, allowing time to safely evacuate the complex if needed and quick response with intelligent alerts for first response teams. VEA also selected in lieu of spot detectors due to aesthetics and maintenance considerations.

Within the complex, 160 traditional spot detectors were replaced with 4 VESDA-E VEA detectors of which can be maintained in strategic mechanical rooms aligning four separate quadrants eliminating the need for lifts used throughout the facility for maintenance. Centralized maintenance of the VEA unites alleviates the need for contractors moving about throughout the facility unescorted – reducing the chances of confidential team information being exposed as well as eases burden on security personnel.

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