

**STATUS OF INSTITUTIONAL LIFE-SAFETY PLANS****Background**

In February 1997, the Commission requested each institution with residential facilities to prepare a summary of the status of life-safety systems in those facilities, and to prepare a plan to address any deficiencies in the systems. These plans were summarized and submitted to the Commission.

The plans included estimated costs for total life-safety plan implementation that ranged from no existing life-safety needs, to needs requiring expenditures in excess of \$16 million. Total identified costs were calculated to be approximately \$46 million.

Commission concerns were that, although existing buildings may not be required to have sprinkler systems, there still exists a serious safety issue for those students living in those dormitories. Current State Engineer regulations require all newly constructed residential facilities to have sprinkler systems. Dormitories constructed prior to 1988 are not required to have sprinkler systems unless renovations costing 50% of the building's value are made. Requirements for sprinkler systems are enforced by the State Fire Marshal. An additional consideration for this issue is the fact that these facilities are included in each institution's housing auxiliary enterprise. Auxiliary enterprises are required by State law to be self-supporting. For this reason, historically, the State has not provided capital funding for auxiliary facilities.

Based on the institutions' plans, the Commission adopted a recommendation in April 1997 to establish a matching pool of \$15 million to be available to institutions to apply for reimbursement of expenditures for the implementation of life-safety systems in residential facilities. The request was not funded by the General Assembly for FY 1997-98.

In October 1997, the Commission considered whether to request funding from the General Assembly for 1998-99 for reimbursement of expenditures for the implementation of life-safety systems in residential facilities. Based on the prior disapproval, the Commission agreed not to request funding from the General Assembly. Instead the Commission adopted a recommendation that each institution be strongly encouraged to implement all of the life-safety measures outlined in the respective institutional plans, and that the institutions report annually to the Commission regarding the status of those life-safety plans as part of the annual budget presentations. The Commission also agreed to relate approval of all auxiliary enterprise capital projects to unmet needs of projects related to life-safety issues.

The Commission has in place a Facilities Advisory Committee which serves to provide advice and assistance to the Commission on all matters concerning the physical facilities of the public colleges and universities, including fire-safety issues. Committee members include the chief facilities officer from each public senior college and university and representatives from the technical college system. In conjunction with the requirement of an annual report on life-safety systems, the Commission established a specific Life-Safety Advisory Committee, consisting of the State Fire Marshal, a representative from the Fire and Life-Safety Division of the Department of Labor, Licensing, and Regulation (LLR) and a representative from the Office of the State Engineer. The Life-Safety Advisory Committee meets periodically with the Facilities Advisory Committee and Commission staff to assess the relative hazards and appropriateness of life-safety systems in place at the colleges and universities.

## Current Status of Life-Safety Plans

Institutions plan to implement the installation of life-safety measures, including sprinkler, alarms, egress systems, and other measures as funds become available and/or as the residential facilities are renovated. All facilities are in compliance with fire safety codes in place at the time of construction. However, when facilities are renovated, if the cost of renovating an individual building exceeds 50% of the value of the building, compliance with all current applicable building codes, including current fire safety codes, is required. A brief summary of each institution's response is listed below. Please note that institutions that do not have residential facilities are not included.

### Summary Update Status of Institutional Life-Safety Plans

#### The Citadel

All of the Citadel's barracks are equipped with sprinkler systems and, when occupied by cadets, the College maintains a guard/fire watch on a 24-hour a day basis. Two of the barracks facilities are new and meet all applicable fire and building code requirements. One was completed in August 1996 and the other in August 1999. The demolition of Padgett-Thomas Barracks, the next barracks to be replaced, is scheduled to begin in late 2000. Efforts to replace the fourth barracks will begin when construction of the new Thomas-Padget Barracks is complete. Recently it was determined that static and residual water pressures on campus do not satisfy fire protection system requirements. Possible solutions are being explored. However, it appears that the likely solution will be to install additional pumps to boost water pressure at an estimated cost of approximately \$200,000.

#### Clemson University

Clemson indicates that of its 23 dormitories, five are equipped with sprinklers. Sprinkler systems will be installed in seven other dormitories as they are scheduled for renovation and as asbestos abatement is completed. Two additional residence halls are under construction, both of which will have automatic fire suppression systems. Once these two new halls are completed, 40 percent of resident hall beds will have sprinkler protection. Also, the portion of Johnstone Hall Dormitory that is without sprinklers will be demolished after occupancy of the new residence halls. In addition, Clemson began a process in 1999 to upgrade its fire alarm systems in various buildings campus-wide. Several old-generation Honeywell fire alarm panels have been upgraded and the institution is in the process of issuing Requests for Proposal (RFP) to upgrade fire panels in several other academic buildings. Annually, the institution sets aside approximately \$100,000 in maintenance/renovation & reserve (MMR) funds for improving emergency lighting and existing as well as accomplishing some asbestos abatement.

#### Coastal Carolina University

Coastal has 10 residence hall buildings, four of which are equipped with sprinkler systems. The six remaining residence halls are of a non-combustible type construction, and each unit has an exterior exit. In addition, smoke detectors and fire extinguishers are in place through these facilities. Due to the type of construction and existing fire systems, no plans are in place to install sprinkler systems in these six buildings. Additional life-safety measures that are being implemented at this time include an upgrade to the existing fire pump and building supply system. Upgrades to the existing fire detection equipment will be implemented within the next four years.

#### College of Charleston

The College of Charleston has more than 71% of its residents occupying facilities that are protected by sprinkler and/or standpipe systems. Sprinkler systems have been installed and operational in all

fraternity houses. The College has six major residence halls, of which one is equipped with a sprinkler system, and 36 houses, of which seven (the fraternities) are equipped with sprinkler systems. Twenty of the College's facilities have only two floors and 11 have three floors. The remaining facilities have four, five, and six floors. Wentworth Residence Hall is scheduled to undergo a major re-fit of the standpipe/sprinkler system beginning in May 2000. All College of Charleston residence halls are equipped with a smoke detector in every sleeping room. Presently the College is in the process of replacing 9-volt battery smoke detectors with 120-volt hard-wired smoke detectors in every sleeping room. Another project presently in progress is the development of and installation of fire/emergency evacuation plans. These fire evacuation plans are being placed in every sleeping room as required by code.

All residence halls have emergency lighting and illuminated exit signs. Fire extinguishers are placed strategically throughout the facilities, and the facilities meet all fire code requirements.

#### **Francis Marion University**

All of the University's residential facilities are equipped with fire alarm systems, smoke detection systems, fire suppression systems (including sprinklers, hoses, and extinguishers), and appropriate access/egress systems.

#### **Lander University**

Lander has seven dormitories, one of which is equipped with a sprinkler system. The University notes that the facilities that currently lack sprinkler systems are in compliance with the Fire Code because sprinklers were not required at the time of construction. Additional life-safety measures will be implemented as funding becomes available from student housing fees.

Some progress has been made since the 1999 report. The standpipe system for Coleman Hall is still on hold due to budget restrictions. This project will be re-evaluated in the coming year and discussed with local fire officials to determine the benefits of installation. Carbon monoxide detectors were installed in several dormitory areas. Only areas that were adjacent to the vents for natural gas appliances were deemed a risk for carbon monoxide exposure. A new emergency generator was installed in the Carnell Learning Center. This system replaced an aging battery backup system and will provide power for emergency lighting and the fire alarm system in the event of a power failure. A new fire alarm system and emergency generator were installed in Barratt Hall during its renovation for occupancy by the School of Nursing, Procurement, and Human Resources. This will provide the occupants with emergency power for safety lighting and early detection of smoke or fire in all areas.

The University, in concert with the Greenwood Fire Department, conducts fire drills in all of the residential facilities. In addition, the Residence Life Office implements a program of routine room inspection for fire and safety hazards, and Physical Plant personnel inspect fire extinguishers and alarm systems routinely.

#### **SC State University**

SC State has 12 dormitories of which three are equipped with sprinkler systems. At the time of construction, the nine dorms without sprinkler systems did not require sprinkler systems by code. All of the dorms are equipped with fire alarm systems and fire extinguishers. All fire alarm systems are monitored at a central location in the Public Safety Office. Since the 1999 report, the University has installed smoke detectors in one dorm, leaving six dorms without detectors. The University is planning to start installing hard wire smoke detectors in the remaining six dorms during the summer of 2000.

The University conducts fire drills in dormitories at least once each semester and exit routes are posted throughout all dormitories. In-house personnel inspect fire extinguishers each year and fire alarm systems are inspected annually by outside contract. The University is currently advertising for a health and safety officer, whose responsibility will be to develop and implement many elements of the health and safety programs.

#### **University of SC - Columbia**

The University indicates that, as a result of a detailed study that was conducted by a fire protection engineering company in 1991, its top priority has been to install hard-wired smoke and fire alarms with central reporting capabilities. A project was established in 1992 to accomplish these priorities. This project is funded with housing revenues and operating fund balances.

Since 1998, significant progress has been made. This includes adding fire suppression systems (sprinklers) to four more residence halls, upgrading the fire alarm system in five buildings, eliminating dead-end corridors in another residence hall, beginning designs for sprinklers and fire alarms in two buildings, and sprinkler systems for two additional high-rise halls. A new residence hall that will house 440 students is under construction. The new residence hall, scheduled for occupancy in August 2000, is being constructed with state-of-the-art fire alarm and fire suppression systems.

Virtually all residence halls now have hard-wired smoke and fire alarm central reporting systems. Six building currently have full sprinkler systems, and an additional 12 have partial sprinkler systems for attics, basements, and storage areas.

#### **University of SC - Aiken**

USC-Aiken acquired Pacer Downs apartments in 1999. The complex consists of 23 buildings, each with four apartments. Buildings 1-15 are hardwired for smoke detection and buildings 16-23 have battery-operated smoke detectors. Each apartment has two smoke detectors and a fire extinguisher that are inspected regularly by university staff. In addition, resident advisors are trained on evacuation and other life-safety procedures. The University plans to install a centralized fire-alarm system as well as a sprinkler system in the near future.

#### **University of SC - Spartanburg**

The University acquired the Rifle Ridge apartment buildings in 1997. These 12 2-story buildings are between 12 and 13 years old. Buildings 1- 6 are hard wired for smoke detection, and Buildings 7 - 12 have battery-operated detectors. No fire alarm systems or fire suppression systems exist in any of the buildings. However, each apartment has two functioning smoke alarms that are checked a minimum of twice a month. Each apartment has a functioning fire extinguisher which is checked a minimum of once a month. Training regarding smoke detectors, fire extinguishers, evacuation procedures, and other life safety issues is held with resident advisors when they are hired. The resident advisors, in turn, share the information with residents verbally and via a newsletter and or pamphlet. In addition, firewalls in attics have been repaired or replaced as necessary. Inspections of the apartments are conducted by the local Fire Marshal twice a year and during the annual campus inspection by the State Fire Marshal. Until funds are available for major work, the USCS is concentrating on maintenance of smoke detectors and fire extinguishers in each apartment, inspections, and training for staff and residents.

#### **Winthrop University**

Winthrop has eight dormitories that are between 29 and 102 years old. Two are equipped with sprinkler systems, with one of these requiring upgrades. If constructed under current building codes, the other six dormitories would be required to have sprinkler systems installed.

The University indicates that as funding is made available for major renovation of the residence facilities which are not equipped with sprinklers, each building will have an appropriate system installed as required by Building and Safety Codes that are in effect at the time of renovation. The

University utilizes a campus wide fire alarm system to monitor campus buildings at a central station located at the Campus Police Department. This station is monitored 24 hours a day year round. Residential facilities receive routine testing and inspection by the University and are inspected annually by the Resident Deputy State Fire Marshal. These facilities are equipped with fire extinguishers, emergency and exit lighting, and standpipe hose systems. Only one dormitory is not equipped with a stand pipe system as this building is a complex of converted motel buildings in which all rooms exit to the outside.

The university reports that no progress has been made on life-safety issues as reported to the Commission in May of 1999. The institution continues to keep all of these items on its capital needs list. Although the buildings, if built today, would not meet the newest codes, the facilities are in compliance with relevant codes and are not unsafe. As buildings are renovated, however, they will be brought up to the most current code at the time of renovation. Winthrop plans to include the installation of a sprinkler system in its renovation of Breazeale Hall.

#### **Denmark Technical College**

Denmark has a one-story and two, two-story dormitories. These buildings are 41, 26, and 35 years old. Based on the age and construction materials of these buildings, the College does not have a plan for installation of sprinkler systems. Additionally, no major structural changes have taken place to require the installation of a sprinkler system in these facilities. In the event that such becomes a requirement, the College would seek funding from a Capital Bond Bill or sources other than a fee increase to residential students. The College currently has no indebtedness for dormitory structures at this time.

The College used a portion of its 1997 Capital fee to purchase portable escape ladders for the second story rooms. Campus Police monitor central fire alarms, extinguishers and smoke detectors. The College has upgraded its fire alarm system to provide early detection of smoke and heat.

Updated May 2000