

September 6, 2001

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.

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. Padgett-Thomas Barracks is currently being demolished. This effort will be completed prior to the start of the new school year. The time schedule for construction of a facility to replace Padgett-Thomas is uncertain due to the availability of funding. There are currently 100 cadets living in temporary modular housing facilities as a result of taking Padgett-Thomas out of service. Efforts to replace a fourth barracks will begin when construction of the new Padgett-Thomas is complete.

Last year, The Citadel reported that static and residual water pressures on campus do not satisfy fire protection system requirements. Efforts are currently underway to fix this problem by installing additional pumps to boost water pressure at a cost of approximately \$200,000.

Clemson University

Clemson completed construction of two additional residence halls (660 beds) in June 2001, both of which have automatic fire suppression systems. Once these halls are occupied, Clemson will demolish a portion of Johnstone Hall Dormitory that is currently without sprinklers. No new student dorms are planned for construction in the next five years.

The campus fire alarm system upgrade project is in progress. Several old-generation Honeywell fire alarm panels have been upgraded and a fire alarm consultant has been hired to review the existing infrastructure and make priority recommendations for upgrading. The upgrades are expected to be completed during FY 2001-2002. The existing fire suppression systems and associated fire pump has recently been inspected, and emergency generators have been serviced. In addition, Clemson has set aside approximately \$100,000 in maintenance, renovation, and reserve funds for improving emergency lighting and exiting, and accomplishing small asbestos abatement projects.

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 have been implemented include an upgrade to the existing fire pump and building supply system, and upgrades to the existing fire detection equipment.

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. The College has six major residents 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 received a major re-fit of the

standpipe/sprinkler system 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 2000 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 13 dormitories of which three are equipped with sprinkler systems. The University indicates that no excess operating funds are available to fund the cost of additional life-safety measures since utilizing housing revenues would require a sizable increase in fees to service the additional debt. The status of the University's life-safety plan has not changed since its May 2000 report.

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 1993, significant progress has been made. This includes upgrading the fire alarm system in 22 buildings. In 1997 a residence hall housing 400 students was constructed with state-of-the-art fire and smoke alarm and sprinkler systems. This year, a second new residence hall housing 440 students was opened with similar systems. This past summer, state-of-the-art fire alarm and sprinkler systems were added to a second phase of McBryde Buildings D and E, and Bates West (a high-rise building housing 400 students) had a sprinkler system completed.

Design work has been completed to add a sprinkler system to Capstone House (a high-rise hall housing 580 students) and to Bates House (another high-rise housing 540 students) in two or three phases during summer 2001. Design work has also been completed for the addition of a new fire alarm system and sprinklers in McBryde Buildings F and G by August 15, 2001.

With the work completed this summer, USC-Columbia will have upgraded almost all residential fire and smoke alarm systems, added complete sprinkler systems to 12 buildings, and added partial sprinkler systems in attics, basements, and storage areas of another 10 buildings. In addition, an engineering company with expertise in life-safety systems has been hired to conduct a study of residence halls to assist us in continuing the aggressive progress that has been made at USC-Columbia so far.

University of SC – Aiken

USC-Aiken acquired Pacer Downs apartments in 1999. The complex consists of 23 buildings, each with four apartments. Installation of a new centralized smoke detection and alarm system was completed in September 2000. The project cost approximately \$170,000. 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. Installation of an upgraded fire main-loop is anticipated during FY2001-2002. Plans to install a sprinkler system are currently not funded.

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. Range hood fire extinguishers that self-detonate in the event of a range fire have been installed inside each range hood. The cost of installation was \$4,332.83.

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's eight dormitories are between 33 and 106 years old. All of the wood-frame buildings have sprinkler systems. The five buildings that do not have sprinkler systems are constructed of fire-resistant masonry and steel. All of the residence systems have fire alarm systems with smoke detectors. Each building is monitored 24 hours per day, seven days per week by Winthrop's public safety department via an underground fire alarm loop.

As Winthrop renovates the dorms over the next four years, sprinklers will be added to most, if not all, of the structures. It is Winthrop's intent to have sprinkler systems installed in all of its dorms within five years.

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 fire alarm system in each of the three dorms provide early detection of smoke and heat.. Campus Police monitor central fire alarms, extinguishers and smoke detectors. In 2000-2001, the college installed new windows in two of the three dorms. Window replacement in the third dorm is in the process of being completed this summer. The new windows have a higher fire rating and provide for an easier exit in the case of an emergency.

Updated July 2001