Report of the
New York State Governor's Task Force on

Campus Fire Safety

July 2000

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Task Force Letter to Governor George E. Pataki

July 2000

The Honorable George E. Pataki
Governor
Executive Chamber
State Capitol
Albany, NY 12224

Dear Governor Pataki:

On February 14, 2000, by Executive Order # 103, you created the Task Force on Campus Fire Safety. In Executive Order #103 you asked the Task Force to carefully examine and consider a number of specific and important factors which affect campus fire safety on college campuses across the State of New York.

Although many individuals and organizations, both within and outside of government, have substantially contributed to the work of the Task Force and the production of this Report, we would like to specifically commend the efforts of the Department of State's Office of Fire Prevention and Control.

As individuals designated to serve on the Task Force, we have been honored by the trust and responsibility you have placed in each of us. After much hard work and careful deliberation, we are pleased to present to you this Task Force's Report on Campus Fire Safety in New York.

— Members of the Task Force
on Campus Fire Safety

I. Executive Summary — A Comprehensive Campus Fire Safety Plan

The following recommendations are submitted by this Task Force and serve as the Comprehensive Fire Safety Plan requested by the Governor's Executive Order. These recommendations are the result of careful evaluation and include short-term and long-term approaches to addressing the fire safety issues examined by the Task Force.

SHORT-TERM STEPS

A Establish within the Department of State a Campus Fire Safety Advisory Board, chaired by the State Fire Administrator. Members serving on this board should be appointed by the Secretary of State and include representatives of the public and independent colleges and universities, fire safety community, security community and other disciplines. The Board, temporary in nature, should establish guidelines for campus policies and procedures concerning fire safety, but still allow campuses to address their unique situations. Areas to be addressed include: evacuation procedures; fire safety activities and actions; residential life staff responsibilities, training and activities; student responsibilities and activities; campus discipline and judicial practices relating to fire and life safety matters; and off-campus housing issues.

B The Office of Fire Prevention and Control should establish guidelines for: 1) the content and frequency of fire safety instruction for college students, 2) training for college residential life personnel and 3) the training and competency of personnel responsible for the routine inspection, testing and maintenance of fire sprinkler, fire detection and fire alarm systems on campuses. These guidelines should be based on

recommendations from the Campus Fire Safety Advisory Board. The Task Force recommends that all colleges and universities follow the guidelines which are established.

The Office of Fire Prevention and Control should monitor the implementation of and compliance with the established guidelines by colleges and universities. If monitoring indicates that they are not implementing and complying with the guidelines, the Task Force recommends that legislation be enacted to mandate adherence.

C The Task Force urges all campuses to immediately conduct interim fire safety programs such as the "Get Out and Stay Alive" program produced by the United States Fire Administration.

D The State Education Law should be amended to designate the Department of State's Office of Fire Prevention and Control as the single source for the annual fire inspection of all public colleges in the state as well as all independent colleges and universities outside of New York City. The Office of Fire Prevention and Control should also be empowered to establish rules and regulations that will provide mechanisms for compliance. Regulations should address issues relating to reinspection and compliance procedures. The Office of Fire Prevention and Control should also be permitted to delegate this responsibility where appropriate.

E The State Education Law should be amended to eliminate the exemption from annual fire inspections contained in Section 807-b which is currently provided to colleges and universities in the cities of Albany, Buffalo, New York, Rochester, Syracuse and Yonkers, so that all campuses in New York State are annually inspected.

F Penal law statutes should be amended to make it a crime to tamper with any fire detection, notification, suppression protection system or equipment.

G All colleges and universities should consider adopting an upholstered furniture flammability standard.

H Local code enforcement officials should make every effort to inspect off-campus housing, including fraternities and sororities, at least once a year for fire hazards.

LONG-TERM STEPS

I Applicable building codes should require all newly-constructed residential facilities that are owned, operated and/or under the control of any public or independent college or university within New York State be equipped with a properly designed fire sprinkler system[1] protecting all areas of the building, as well as a completely integrated fire/smoke detection and alarm system[2] that will alert all residents in the event of a fire condition.

J Applicable building codes should require all existing campus residential facilities that are owned, operated and/or under the control of any public or independent college or university within New York State be equipped with complete integrated fire/smoke detection and alarm systems, covering all areas of the buildings, that will alert all residents in the event of a fire condition.

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[1] Defined by the NYS Uniform Fire Prevention and Building Code as a system of piping, controls and sprinklers designed and installed for fire protection purposes in conformity with the applicable reference standards.

[2] An approved installation of equipment which automatically actuates an audible and visual alarm when a detecting element is exposed to fire, smoke, abnormal rise in temperature or which is manually activated. These devices shall cover all areas of the building and be installed in accordance with the applicable reference standards.

The installation of these integrated fire/smoke detection systems could be accomplished over a 10-year period. The first two years should serve as a planning period to develop an implementation plan to determine the order in which dormitories will be retrofitted. Factors such as building construction, type, size, age, configuration, scheduled renovations and length of future service as a residence hall should be used to determine priority. This priority program should be managed and coordinated by the Dormitory Authority of the State of New York, in cooperation with the colleges and universities and the Department of State.

Applicable buildings codes should also require a fire sprinkler system protecting all areas of the building be installed in every college residential structure owned, operated and/or under the control of any public or independent college or university within New York State at the time the structure undergoes significant rehabilitation.

The Task Force stresses that no single recommendation will resolve all fire safety issues. The most logical and sound approach is the implementation of a comprehensive program that increases student and staff education levels, assures sufficient oversight and reduces the potential for a fire to occur, while enhancing fire protection and detection systems.

II. Introduction

The January 19, 2000 loss of three students' lives to fire in the Boland Hall dormitory at Seton Hall University in South Orange, New Jersey created national headlines. As more details about the fire and the events leading to it became known, the concern that such a senseless loss of life could occur on other campuses was expressed in New York. Governor George E. Pataki said, "While New York campuses have a good record on fire safety, the tragic fire at Seton Hall University is a stark reminder that colleges and universities must be diligent in protecting the lives of the students entrusted in their care." Recognizing the need and acting to protect the health, safety and well-being of New York students, on February 14, 2000 Governor George E. Pataki issued Executive Order #103 creating a task force to investigate and report on the issue of campus fire safety.

The Task Force was comprised of officials representing both public and independent colleges and universities, the lead government agency that constructs college dormitories, student representatives and fire service officials. The Task Force was charged to review the following issues:

1. The adequacy of building and fire codes as applied to student residence halls in public and private colleges and universities in New York State.
2. The record of compliance by public and private colleges and universities in New York State with fire safety laws and code requirements applicable to student residence halls.
3. Fire safety policies and procedures with respect to student residence halls at public and private colleges and universities in New York State, including fire drills and evacuations, staff training and student orientation.
4. Fire safety policies and procedures with respect to student residence halls at public and private colleges and universities outside of New York State.

5. Statutory and college disciplinary penalties for false alarms, misuse of fire safety equipment and setting of fires in student residence halls of public and private colleges and universities in New York State.

6. The extent and adequacy of fire suppression and detection systems, including but not limited to sprinklers and smoke detectors, in student residence halls at public and private colleges and universities in New York State.

7. The potential costs associated with any recommended upgrades of fire suppression and detection systems or related programs in student residence halls at public and private New York State colleges and universities.

8. Any other matters relating to fire safety at public and private colleges and universities in New York State, as the Governor may direct.

The Task Force was also charged to develop a comprehensive statewide Campus Fire Safety Plan, which may include recommendations for changes in laws, regulations, policies and practices relating to fire safety in student residence halls at public and private colleges and universities in New York State.

In the period from 1993 to 1997 more than 1,600 fires occurred on college campuses in the United States. More than 90 percent of them took place in dormitories, other residential structures and classroom buildings. The fire damage to dormitories alone approaches $9 million per year, with the majority of fires occurring in bedrooms, kitchens and hallways.[3] These numbers strongly indicate the need for an increased focus on fire safety at our institutions of higher education. However the real numbers are probably higher still. The statistics referenced are derived from information reported to the United States Fire Administration by fire departments throughout the United States. It is based on fire department responses. If a fire department is not called to a campus, the fire department is not aware a fire has occurred and the fire is not reported.

In New York State, fire department-provided data indicated a total of approximately 160 fires occurred annually in dormitories during the past 3 years.[4] Statewide campuses reported an average of more than 300 fires per year during the same period.[5] While this discrepancy indicates that just less than half of all fires may have been small enough to be extinguished by campus personnel and therefore were

[3] National Fire Protection Association, 1 Batterymarch Park Quincy, MA.

[4] New York State Fire Reporting System, data period 1996-1998.

[5] Office of Fire Prevention and Control Campus Fire Safety Survey — conducted March 2000.

not reported to or by a fire department, every one had the potential for tragic consequences. New York fire departments have reported two fatal residential hall fires in the past ten years.

This Report begins with a review of the methodology the Task Force utilized in carrying out its duties. It then examines each item identified in Executive Order #103 by discussing current policies and practices as well as identifying critical issues. These specific issues were incorporated into the Task Force's recommended Comprehensive Campus Fire Safety Plan, designed to enhance the level of fire safety for college students in New York State, which is set forth in Section I of this Report.

III. Developing The Task Force Report

Overview

The Task Force, required to consider and report on campus fire safety issues, held seven meetings and work sessions where members discussed each of the eight charges of the Executive Order in depth, evaluated findings and developed recommendations. A public forum was held on March 30, 2000 to receive comments and suggestions from interested parties. Appearing before the Task Force were representatives from the State University of New York Police Chiefs Association, State University of New York Environmental Health and Safety Association, the National Fire Sprinkler Association, the New York State Building Officials Conference and fire chiefs from the cities of Ithaca and Albany. The experience and statements of these individuals proved to be of great value in the information-gathering process.

Written comments were also provided by the State University of New York Physical Plant Administrators Association, the State University of New York Residence Life and Housing Officers Organization, the Council of Chief Student Affairs Administrators Association, the Fire Department of New York City and several fire protection equipment vendors. These comments were considered by the Task Force when it developed its final recommendations.

Fire Safety Surveys

In the days following the Seton Hall tragedy, both the State University of New York and the Commission on Independent Colleges and Universities sent out separate questionnaires on fire safety issues. Each organization compiled and analyzed the data and provided it to the Task Force.

The Task Force realized that to evaluate all the issues contained in the Governor's Executive Order more detailed information would be required. The Department of State's Office of Fire Prevention and Control developed a comprehensive new survey, a copy of which is included in Section V of this Report. The State

University of New York, City University of New York and the Commission on Independent Colleges and Universities distributed these surveys. This new survey collected data in two categories — general campus information and residential buildings. The general campus information section was designed to gather information on the educational, operational and maintenance programs addressing fire safety. The second part of the survey concentrated on specific data concerning fire protection systems, sprinklers and fire alarms in campus residential buildings.

Approximately 85 percent of the colleges canvassed responded to the Office of Fire Prevention and Control survey. This amounts to 97 campuses with some 1,200 residential buildings. The data was entered into a database program to allow for retrieval, analysis and comparison. The results of the survey were compiled in an attempt to determine the extent of fire safety programs and equipment on the college campuses in New York.

Other Investigation and Data Sources

At the same time survey information was being evaluated, an attempt was made to study the history of annual fire inspections, required by State Education Law, of colleges and universities. However, no data source existed from which to collect this information. Section 807-b of the Education Law requires campuses to submit a report of the annual inspections to the State Education Department. A copy of this section of the law is contained in Section V of this Report. About 75 percent of the colleges comply with this filing requirement.[6] The State Education Department must routinely contact delinquent colleges in an effort to have reports submitted. The results of these inspections are not compiled to assess compliance levels.

An examination of statutes and regulations pertaining to college fire safety was conducted by the Department of State's Office of Legal Services. Reports were made verbally and in writing to Task Force members. The statutory and regulatory requirements for fire protection devices in dormitories were reviewed. The Task Force looked at a compilation of other states' criminal sanctions for interference with fire protection equipment. A summary of pending legislation which might affect fire safety at college facilities was also provided.

To consider the adequacy of both the existing Uniform Fire Prevention and Building Code and the International Building and Fire Codes, currently scheduled for adoption in New York State in 2002, the Department of State's Codes Division

[6] Discussions with State Education Department personnel.

developed several reports for the Task Force, including a comparison of various requirements of both codes, and provided valuable insight to the fire protection requirements of the new International Codes.

The Dormitory Authority assisted in the evaluation of the statistical data provided by campuses in the Office of Fire Prevention and Control survey. The Dormitory Authority also compiled cost estimates for possible additions to, renovations of and installation of new fire protection equipment.

The Office of Fire Prevention and Control contacted other states to gather information on their actions concerning fire safety in the college environment. The information was forwarded to the Task Force members during the meetings and workshops. Educational programs and materials were identified. The United States Fire Administration, the National Fire Protection Association and others provided valuable data, historical background and training materials for review by the Task Force. Finally, the Office of Fire Protection and Control spoke with experts in the field of fire suppression and alarm systems, as well as fire safety education, in an effort to gain knowledge and formulate suggestions to share with the Task Force.

IV. Executive Order Issues

The following is an evaluation of the eight fire safety issues that Executive Order #103 specifically directed the Task Force to review. Each subject area contains historical background, reviews current conditions and identifies deficiencies.

During its discussions of each issue, the Task Force came to conclusions that were used to develop its recommendations in the Executive Summary — A Comprehensive Campus Fire Safety Plan set forth in Section I of this Report.

Task Force conclusions are set off in bold italics in this manner throughout this Section of the Report.

1. Adequacy of Building and Fire Codes

Building construction, operation and maintenance throughout New York State, outside of New York City which enforces its own building code, are governed by the New York State Uniform Fire Prevention and Building Code (UFP&BC). This code was adopted in 1984 and provides standards for the construction of new structures and fire prevention requirements for both new and existing buildings. It is expected that, in 2002, the UFP&BC will be replaced by the International Codes.

A. Requirements for New Construction. Building codes establish certain thresholds that must be reached before specific fire safety features are required to be incorporated in new construction. These thresholds are illustrated in the following chart.

SYSTEM REQUIREMENTS BY CODE
(For new construction of residential halls)

	Sleeping Room Smoke Detectors	*Fire Alarm System*	*Fire & Smoke Detection System*	*Sprinkler System*
Uniform Fire Prevention & Building Code	All buildings	> 2 stories *or* > 30 sleeping rooms	> 2 stories *or* > 30 sleeping rooms	> 2 stories
International Fire Code	All buildings	> 2 stories *or* > 16 sleeping rooms	Required with the fire alarm system	> 2 stories *or* > 16 sleeping rooms
New York City Building Code	All buildings	> 15 sleeping rooms *or* > 15 lodgers above the 1st floor	Mechanical spaces only	> 4 dwelling units

Under the existing UFP&BC, sprinklers are only required throughout a dormitory if the structure is greater than two stories in height. The proposed International Fire Code (IFC) would require sprinklers if the structure is greater than 2 stories or contains more than 16 sleeping rooms. The New York City Building Code requires sprinklers when more than four dwelling units are present.

Smoke detection and fire alarm systems are mandated by the UFP&BC when the building is higher than 2 stories or has more than 30 sleeping rooms. The IFC sets these parameters at more than 2 stories or greater than 16 sleeping rooms. These types of systems cover all areas of a building and will provide notification to all occupants upon activation. The New York City Building Code separates the alarm system from the detection system and sets the criteria for each in accordance with the previous chart.

Smoke detectors are required in the individual sleeping rooms under all three Codes. However, these devices need only be single station smoke detectors that only cover the individual room and alert only the occupants of that room.

The Task Force believes that while existing thresholds in current and proposed Building Codes represent acceptable practice and provide an acceptable level of fire safety for most buildings, the nature of campus residential facilities warrants extra protection. The nature of these facilities, including the higher number of occupants within each building and their varied activities, suggests modifying the thresholds in these Codes to require certain fire protection equipment in all newly-constructed campus residential facilities.

B. Requirements for Existing Construction. For the most part, structural and system requirements within the Codes are prospective in nature and apply only to new structures. Existing structures are not routinely required to be retrofitted with new fire protection systems and equipment. As a result, many existing structures are allowed to be used for their intended purpose without incorporating fire protection upgrades and improvements. Therefore many buildings do not contain the most current fire protection safeguards.

This is especially true with campus residential facilities. Because most dormitories were constructed before adoption of the Uniform Fire Prevention and Building Code in 1984 they are not required to meet the fire safety standards of the 1984 Code. These "grandfathered" facilities will remain operational for years to come and as a result there are now more than 1,000 existing residential facilities that lack either a complete smoke detection/alarm system or full sprinkler system[7].

The Task Force believes the nature of existing campus residential facilities ideally warrants protection equal to new dormitories and that modifications to current and proposed Codes are necessary to eventually require the same levels and types of fire protection equipment in all existing campus residential facilities.

The Task Force further believes that the most sound approach to reach this goal is to install complete smoke/fire detection systems in existing residential facilities not so equipped and to install complete fire sprinkler systems during significant rehabilitation projects.

2. Record of Compliance by Public and Private Colleges

A. Annual Fire Inspection Process. Determining the level of fire safety and code compliance on New York State's colleges and universities proved to be a difficult task. State Education Law requires most colleges and universities to be inspected annually for fire hazards (exempted campuses are later discussed). It also requires these facilities to report the findings of these

[7] Office of Fire Prevention and Control Campus Fire Safety Survey — conducted March 2000.

inspections to the State Education Department. However, follow-up or further action to ensure violations have been corrected is not required, as the State Education Department serves only as a repository for these reports.

In the case of those facilities under the jurisdiction of the State University of New York, the Department of State's Office of Fire Prevention and Control serves as the inspection agency. The Task Force was able to examine records maintained by the Office of Fire Prevention and Control for compliance. While the Office of Fire Prevention and Control reports its findings of these inspections to both State University of New York and the State Education Department, the lack of a follow-up mechanism to ensure compliance is evident. It was noted in the reports and confirmed by discussions with the inspectors that certain violations are often repeated year after year.

Discussions with other inspection groups and testimony from local government officials who have contact with independent colleges and universities tended to indicate that similar conditions exist at independent colleges.

State Education Law provides colleges, other than State University of New York campuses inspected by the Office of Fire Prevention and Control, with options for the annual fire inspection. The inspections may be performed by the local fire department, county fire coordinator, contract inspector or by the college itself. The hired-contractor approach is the most common practice used today by independent institutions. It does not encourage uniformity in the inspection process, nor does it lend itself to an unbiased, objective inspection. Other states have avoided this situation by retaining the fire inspection and enforcement responsibility and operating a state-sponsored program for colleges and universities.

The Task Force believes a lack of consistency exists in the inspection process and that if the process is to be of value, it must be uniform in nature and the inspection task carried out in a comprehensive and coordinated manner by a single entity.

B. Exemption from Fire Inspection Requirements. Pursuant to the State Education Law, colleges and universities in the cities of Albany, Buffalo, New York, Rochester, Syracuse and Yonkers are exempt from the annual

fire inspection requirement. While of these municipalities only the City of New York is currently performing annual fire inspections of campuses located within its jurisdiction, several of the independent campuses in the other jurisdictions are being voluntarily inspected. Additionally, the State University of New York campuses in all these cities are being inspected by the Office of Fire Prevention and Control. The State Education Department's inspection database only contains records of those colleges actually conducting inspections, making it therefore difficult to identify campuses that are not being inspected.

The Task Force believes that this exemption within the Education Law should be removed and that all colleges and universities be required to have an annual fire inspection.

C. Correction of Fire Safety Violations. The present fire inspection system has no compliance mechanism and relies on individual campus administrations to correct violations. Rules and regulations governing the administration and enforcement of the Uniform Fire Prevention and Building Code allow public agencies that own or control a building to enforce the Code within that building by designating itself as the code coordinator for the property. This does not ensure objectivity.

The Task Force believes that a comprehensive inspection program, with adequate follow-up and a system to ensure the correction of violations, is needed and would provide a more objective approach to fire safety inspections.

3. Fire Safety Policies and Procedures Affecting Student Residence Halls in New York State

A. Student Fire Safety Education. Survey results and public testimony indicate that a vast majority of New York State's colleges and universities provide some type of fire safety information to students. The extent and frequency of this instruction varies dramatically, ranging from providing a fire safety pamphlet with orientation materials to requiring each student to complete a formal fire safety education session.

The Task Force found while some excellent programs are being offered in New York, they are being conducted voluntarily. Moreover, there are no basic learning objectives, minimum content or frequency regulations, nor are there minimum standards or knowledge levels for those providing instruction.

The United States Fire Administration has produced an instructional program titled "Get Out and Stay Alive," which is aimed at college students. Colleges and universities should consider using this program while the minimum standards recommended by the Task Force are being developed. The program is available at almost no cost, involving only the expense of reproducing instructional materials.

The Task Force believes that a comprehensive fire safety program should be provided to all college and university students. Appropriate standards should be identified for students living on campus as well as those residing off campus.

B. Campus Staff Fire Safety Training. Campus staff fire safety training is reportedly provided in a majority of college campuses. As is the case with student instruction, campus staff training varies widely in its content, effectiveness, value and frequency.

The Task Force believes that fire safety training should be provided to staff with topics based on the normal job tasks and expected responsibilities in a fire situation.

The Task Force further believes that both instruction for students and training for staff should require minimum content levels while still allowing each college the flexibility necessary to vary delivery methods and incorporate unique concerns and situations of the particular campus.

C. Fire Drills. State Education Law requires colleges and universities to conduct fire drills in student residence halls four times each year, including one drill conducted at night. One hundred percent of the campuses responding to the Office of Fire Prevention and Control survey reported that they comply with this provision of the law. Information from the public input process indicated that some colleges and universities may count false alarms among the required total.

The Task Force believes that while this requirement is adequate, false alarms should not be permitted to count as any of the required drills.

D. On-Campus Residential Housing Policies and Procedures. Most colleges have established fire safety policies and procedures for smoking, cooking in dorm rooms, permitted furnishings and fire alarm evacuation. Testimony indicated a distinct lack of uniformity in the strength and substance of these policies. Penalties for noncompliance with these policies vary from campus to campus, ranging from a letter of record placed in a student's file to expulsion.

The Task Force recognizes that each college needs to have flexibility in establishing its own acceptable levels of behavior. However, policies and procedures should be based on a fire-safety model, developed cooperatively by campus residential life personnel, college administrators and fire service professionals. This would not limit or prohibit a college from expanding such policies, but simply establish a baseline of safety requirements, procedures and penalties.

The Task Force believes that all campuses, even those without residential facilities, should adopt a comprehensive set of fire safety policies and procedures, as determined by the needs and facilities of each campus. However, they should be at least equal to a fire safety policy and procedures model. Once developed, these policies and procedures should be made as widely available to students as possible.

E. Furniture Flammability Standards. The nature of a building's furnishings, particularly upholstered furniture, can have a significant impact on the growth, spread and production of smoke. The Dormitory Authority of the State of New York uses an effective upholstered furniture flammability standard developed in California to reduce this impact. A copy of California Technical Bulletin #133 is provided in Section V of this Report. Many other states have adopted similar standards.

The Task Force believes that an upholstered furniture flammability standard should be adopted by all colleges and universities. Campuses which have developed local requirements that meet or exceed those currently used by the Dormitory Authority are encouraged to continue to use those requirements.

F. Off-Campus Residential Facilities. A significant number of students reside in off-campus housing, including fraternity and sorority houses. These residential facilities have been most prone to deadly fires. As recently as May 11, 2000 nine Alfred University students were injured, one critically, in an off-campus apartment house fire. Off-campus properties are privately owned and are under the jurisdiction of local code enforcement and, therefore, the colleges and universities have no ability or legal authority to monitor fire safety and code compliance. The rules and regulations which govern the enforcement and administration of the Uniform Fire Prevention and Building Code do not specify a frequency for the inspection of residential facilities. As a result, off-campus housing may go for an extended period before being inspected, if ever.

The Task Force strongly encourages local code enforcement officials to make every effort to inspect off-campus housing, including fraternities and sororities, at least once a year for fire hazards.

4. Fire Safety Policies and Procedures Affecting Student Residence Halls Outside New York State

A request for information from other states was made in an attempt to determine the fire safety policies and procedures found on their campuses. Inquiries were also made to determine what new initiatives, if any, these states are considering following the tragic fire at Seton Hall University. These states are confronted with many of the same concerns found here in New York — the lack of fire safety uniformity or consistency in campus fire safety policies. Several of the states which were consulted indicated that they too are re-evaluating fire safety on college campuses and are also convening a workgroup similar to this Task Force to study and make recommendations on college fire safety.

An examination was also made of the building and/or fire code requirements for fire protection systems in newly-constructed residential halls in several other states. The following chart illustrates these requirements in relation to the New York State Uniform Fire Prevention and Building Code.

SAMPLE CODE COMPARISON
(Fire protection system requirements of other states for new construction of residential halls)

	Smoke Detectors	*Fire Alarm System*	*Detection System*	*Sprinkler System*
New Jersey	All buildings	> 2 stories *or* > 1 story below grade	> 2 stories *or* > 30 sleeping rooms	All buildings, except 2 or less story buildings w/ a maximum of 12 dwelling units per fire area
Ohio	All buildings	Required in all	Required in all areas other than sleeping rooms	> 75' high but not in sleeping areas
Connecticut	All buildings	> 2 stories *or* > 1 story below grade	Not required when a sprinkler system is present	All buildings, except 2 or less story buildings w/ a maximum of 12 dwelling units per fire area
New York*	All buildings	> 2 stories *or* > 30 sleeping rooms	> 2 stories *or* > 30 sleeping rooms	> 2 stories

** As indicated in the previous table on page 12, the New York City Building Code requirements vary slightly.*

Legislation has recently been enacted in New Jersey which requires the installation of complete sprinkler systems in approximately 9.5 million square feet of non-sprinklered campus residential space over four years. This represents coverage of only one-quarter of New York's college and university unsprinklered dormitory space. This legislation created a $93 million loan pool from which public campuses may draw the necessary funds interest free, with the independent colleges and universities paying a modest interest rate. These loans are to be paid back to the state within 15 years.

On April 13, 2000 the Pennsylvania Board of Governors of the State System of Higher Education voted to install sprinklers in each of 147 public dormitories (one eighth of the number in New York State requiring sprinklers) under a 5-year plan. The cost of this program may be passed on to the residential students through an increase of yearly dorm fees by as much as $150.

Massachusetts has also announced a plan to install fire sprinklers in existing dormitories located at its 29 public colleges and universities that are

not so equipped. The proposed legislation authorizes state funding of fire sprinkler installation in these state dormitories to avoid having to raise student fees to finance the safety measures.

The Task Force believes that with the implementation of the recommendations of this Report, New York State will be responsibly and comprehensively addressing a wide range of fire safety issues on its campuses.

5. Statutory and Disciplinary Penalties for False Fire Alarms, Tampering with Fire Safety Equipment and Setting of Fires

College surveys, public testimony and research identified two major categories concerning this issue. The first deals with the commission of crimes, for example initiating false fire alarms or intentionally setting fires. The second addresses penalties for violations of campus fire safety policies and practices.

A. Criminal Penalties. Criminal penalties exist in the Penal Law for initiating a false fire alarm or setting a fire (arson).

The Task Force believes that the provisions of the Penal Law concerning these crimes are adequate. Its concern is the enforcement of these laws.

The Task Force believes that colleges and universities should ensure that violations of these statutes are aggressively investigated and prosecuted.

B. Tampering with Fire Safety Equipment. Research indicated that currently the acts of intentionally or maliciously tampering with fire safety equipment are not crimes. Removing fire alarm bells or rendering them inoperative and covering smoke detectors with plastic bags to prevent their activation are examples of these actions. These potentially deadly acts endanger the occupants of the entire structure, yet they are only addressed as violations of the New York State Uniform Fire Prevention and Building Code.

The Task Force believes that intentionally or maliciously tampering with fire-safety equipment should be made specific crimes under the Penal Law.

C. Disciplinary Penalties. It was determined that most campuses maintain a campus judicial system to address instances where students fail to adhere to campus rules and regulations, including fire safety policies. The purpose of this system is to review incidents, provide due process for violators and administer sanctions which may range from a letter of reprimand to expulsion from the institution. While some campuses have taken a serious stand on fire safety violators, a lack of consistency exists in campus procedures and sanctions.

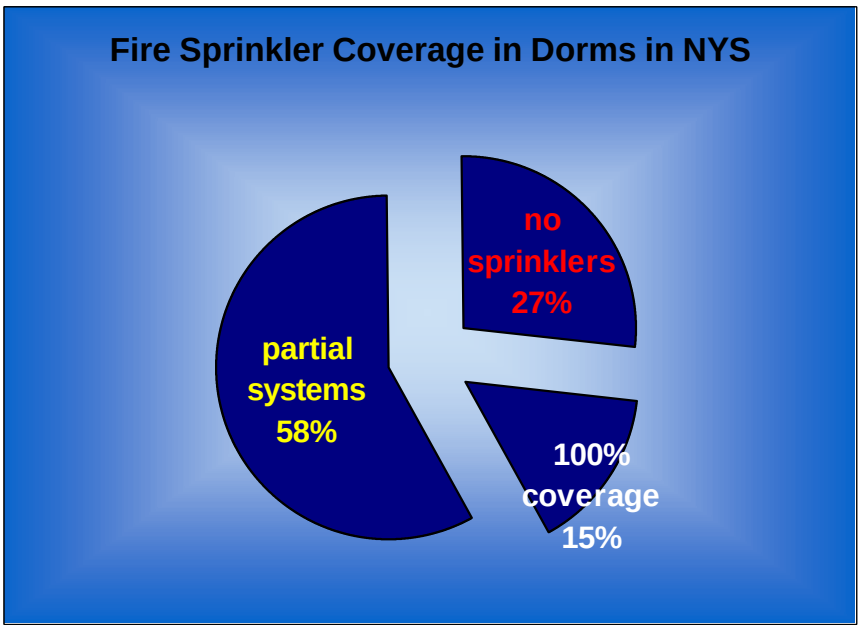
The Task Force believes a detailed review of the penalties assessed for violating fire safety policies and procedures, as they pertain to the campus judicial proceedings, should be conducted by the Campus Fire Safety Advisory Board.

6. Extent and Adequacy of Fire Suppression and Detection Systems

This section will examine the two most common fire safety systems in use today, sprinklers and detection/alarm systems. While both systems contribute to the overall fire safety of a building, their design and operating principles dictate that they be reviewed and discussed separately.

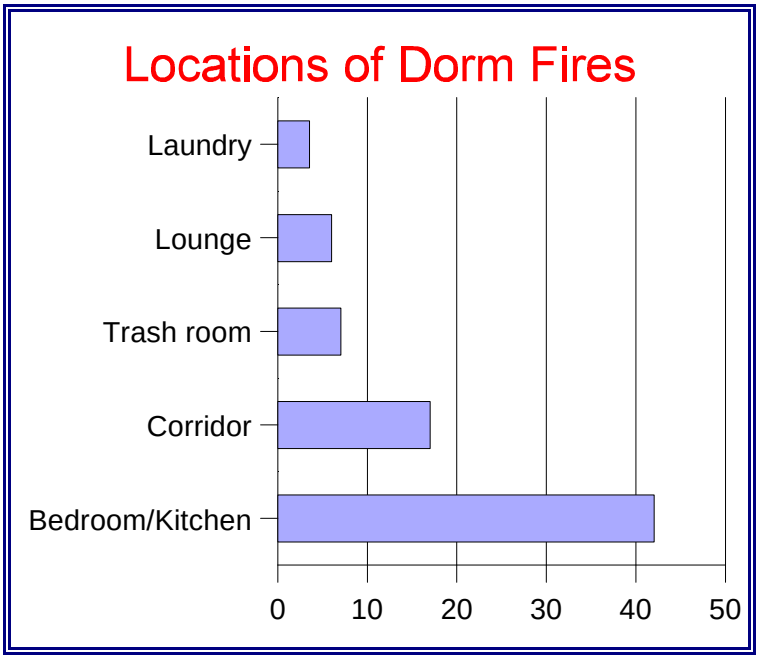
A. Fire Suppression Systems. The most widely accepted and used fire suppression system in buildings is the fire sprinkler system. A long-standing record exists establishing sprinklers as an economical and very effective method for reducing the spread of fire as well as reducing both property damage and loss of life. "When sprinklers are present, the chances of dying in a fire and the average property loss per fire are both cut by one-half to two-thirds, compared to fires where sprinklers are not present. In fact, the National Fire Protection Association has no record of a fire killing more than two people in a completely sprinklered educational or residential building where the system was working properly."[8] Numerous post-fire investigative reports and articles conclude that in many dormitory, fraternity and sorority house fires sprinklers could have controlled the fire and saved lives.

[8] National Fire Protection Association, 1 Batterymarch Park, Quincy, MA.



SOURCE: Office of Fire Prevention and Control Campus Surveys — March 2000

The requirement for the incorporation of sprinkler systems during construction has traditionally varied and is based on a number of factors such as building type, size and use. On college campuses, sprinkler systems are found in some locations, but full systems are not found in a majority of the residential buildings. Many colleges have incorporated partial sprinkler systems in their residential buildings in an attempt to increase protection to perceived hazard areas. These partial systems are normally installed in storage areas, trash rooms, janitor's closets and other similar spaces. While this practice provides protection within these unoccupied areas, it provides little to no protection throughout the rest of the structure where the students spend their time. Partial systems are of no value if the fire occurs in an unsprinklered area of the building and as depicted in the chart on the right, the greatest number of fires in college residences (43 percent) occur in student rooms and cooking areas.[9] To be most effective sprinkler systems must be provided throughout the entire building.



SOURCE: National Fire Protection Association, Quincy, MA

Information provided by the colleges and universities indicated that only 15 percent of the

[9] National Fire Protection Association, 1 Batterymarch Park, Quincy, MA.

existing on-campus residential facilities have full sprinkler systems. (This does not include the City University of New York's single dormitory which is scheduled to be fully sprinklered.) "Sprinkler systems have an established record of preventing catastrophic fires in residential facilities, making sprinkler protection perhaps the most effective weapon in the residential building fire safety arsenal."[10]

Based on the demonstrated benefits of sprinkler systems, fully sprinklering residential buildings would substantially enhance the level of fire safety in these structures.

Any action to install full sprinkler systems in the large number of existing campus residential buildings (more than 1,000) will require proper planning and considerable time. The initiative of retrofitting sprinkler systems should not be thought of as a single project, but rather as more than 1,000 separate and distinct construction projects covering more than 36 million square feet of residential space on New York campuses. These projects will have a considerable fiscal impact and result in substantial disruption to normal campus routine. Accordingly, sprinkler installations should be accomplished over time and incorporated into ongoing capital improvement plans.

The Task Force recommends a phased retrofit program that will require the installation of a full sprinkler system when a residential building is significantly rehabilitated. This approach is appropriate, realistic and sensible given the availability of resources, the capacity of the industries involved to carry out the number of necessary installations, actual construction time and the need to coordinate with the campus residential communities in order to minimize student dislocation and disruption.

To increase the level of safety for all students housed on New York State's campuses, the Task Force believes all newly-constructed college residential structures should be equipped with a full sprinkler system and a phased retrofit program should be established to install sprinkler systems in all areas of existing campus residential structures during significant rehabilitation. The belief in sprinkler systems was echoed by the vast majority of those submitting testimony to the Task Force.

[10] *Fire Safety Student Housing, A Guide for Campus Housing Administrators*, United States Fire Administration, 2/1/99.

B. Detection/Alarm Systems. The Office of Fire Prevention and Control surveys indicated that more than 90 percent of the residential facilities on campuses in New York State are equipped with some type of fire detection and/or fire alarm systems. Location and coverage of this equipment varies widely. Some campuses have no more than simple smoke detectors in the student rooms which alert only the occupants of that room, while others have detection and alarm systems that cover the entire building and are designed to notify all building occupants that a fire emergency exists within the building. This early notification throughout the entire building is critical for safe and prompt evacuation during fire emergencies.

Retrofit of integrated fire alarm and detection systems in those residential buildings currently without full coverage will also require a phased process. It will take some time to identify facilities requiring equipment, develop a priority list and engineer and install the fire alarm and detection systems. It is estimated that a two-year planning period would be necessary. Critical activities that would be performed in this phase include: detailed on-site building surveys to determine a building's placement on the priority list, precise construction information on each building for the purposes of creating engineering plans and specifications, development of plans for each project and the awarding of the construction contracts.

The Task Force believes integrated fire detection/alarm systems covering all areas of residential buildings should be installed utilizing a 10-year phased program.

C. Inspection/Testing/Maintenance. Sprinkler, alarm and detection systems will be of no use if they are not properly maintained. Campuses indicated through the Office of Fire Prevention and Control survey that just over 50 percent of the existing sprinkler systems and 80 percent of the existing alarm/detection systems are being inspected, tested or maintained according to nationally-accepted standards. With a potential increase in the number of these life safety systems, these critical servicing activities become even more significant.

The quality of the system inspection/testing/maintenance programs is unknown. The expertise of the personnel performing the inspections and maintenance varies widely. Some are very knowledgeable and others may

receive a brief on-the-job orientation. No minimum training standards for the personnel assigned to conduct these operations are currently in place. The General Business Law sets licensing and educational requirements for the business licensee that installs or maintains security and fire alarms, but it contains no competency requirements for the people who might actually be performing the inspection/testing/maintenance work, nor does it address any work related to sprinkler systems.

The Task Force heard during the public input process that campus personnel are too few to effectively carry out these tasks. The Task Force is concerned that all too often the daily maintenance problems on campus relegate the testing and maintenance of the fire protection system to a lower priority.

Another concern is the dangerous assumption that fire safety equipment will always work effectively when needed. Without scheduled testing and maintenance to ensure its functionality, the presence of the sprinkler head or smoke detector on the ceiling and the alarm pull station on the wall lulls people into a false sense of security.

The Task Force believes establishing minimum training levels and methods to verify competency would ensure that all personnel assigned to these vital functions are properly trained and equipped to carry out their duties.

The Task Force also believes that colleges should make every effort to ensure that inspection/testing/maintenance requirements are met.

7. Potential Fiscal Impact Associated with Recommendations

The fiscal impact associated with these recommendations is substantial. However, failure to implement these initiatives brings a potentially greater and immeasurable cost — the loss of human life and destruction of property. This section examines the fiscal impacts associated with each major issue. The specific methodology used to devise the figures is contained in Section V of this Report.

A. New Construction. The incorporation of fire protection systems in all new construction will not have a major financial impact. According to figures provided by the Dormitory Authority of the State of New York, in new construction, sprinkler protection currently adds $2.00–$3.50 per square foot

and alarm/detection systems currently add approximately $1.40–$2.50 per square foot. Combining both these systems in new construction typically increases project costs about three percent. This increase should be factored into the new building costs calculations.

The Task Force believes that the financial impact of incorporating fire protection systems into new construction is modest and cost effective.

B. Retrofitting Existing Structures. The cost per square foot to retrofit a complete sprinkler system depends on several factors including location, height and age of the building. The Dormitory Authority estimates that the cost to provide sprinkler coverage in existing residential facilities ranges from $3.00 to $7.00 per square foot.

When the sprinkler installation is coordinated with a rehabilitation project the cost per square foot would be less costly, thereby making phased implementation economically feasible. The inclusion of these enhancements should be incorporated into ongoing capital improvement plans.

Both the State University of New York and independent campuses have approximately the same volume of residential square footage (10 million square feet each) which lack complete smoke detection coverage. The Dormitory Authority estimates, for the State University of New York and the independent institutions, installation of complete fire detection and alarm systems in existing residential structures would cost approximately $33 million each.

Conducting and financing the detection installation projects over a 10 year implementation period would, of course, reduce financial impacts associated with construction and allow for alternative space requirements during construction.

The Task Force believes the potential life-saving benefits derived from adding these fire protection features to existing campus residential structures justifies the expense.

C. Inspection/Testing/Maintenance of Fire Protection Systems. Funds would be needed to operate training and competency programs of personnel responsible for the ongoing inspection/testing/maintenance programs to ensure these systems work properly. The funds would cover both personnel and non-personal services expenses.

The Task Force believes that the training and competency programs for individuals working on fire protection equipment is appropriate and would be cost effective.

D. Expansion of Current Inspection/Compliance Program. The expansion of the current college inspection program to include all college facilities and the creation of a reasonable compliance process will require additional funding. The costs would reflect salaries, equipment, travel, office space and other expenses necessary to complete the task of conducting annual fire inspections at every college and university within New York State outside of New York City. This program would also include follow-up activities, the monitoring of violations to stimulate compliance and assisting in student educational programs.

The Task Force believes establishing and providing sufficient resources to an expanded inspection program will result in the elimination of a flawed process, whereby violations go uncorrected year after year, and will ensure that meaningful action is taken to increase the level of fire safety.

E. Student and Staff Fire Safety Training. The establishment of guidelines for minimum training levels and the necessary support to implement these training programs statewide will necessitate additional funding that would reflect necessary education materials as well as ongoing "train-the-trainer" programs for the personnel who will deliver the instruction to the students.

The Task Force supports the establishment of appropriately-supported fire safety training programs which increase levels of fire safety knowledge.

8. Other Matters Relating to Fire Safety on Campuses

Educational And Research Facilities. The Task Force recognizes that fire safety concerns on New York's colleges and universities extend beyond the walls of the residential facilities. Activities within the educational and research buildings also create conditions and situations that could increase the likelihood and magnitude of a fire. The Task Force's authority was clearly defined, limited to addressing fire safety issues in residential housing.

The Task Force believes that several of the recommendations in this Report — the student education component and the expanded inspection program are two examples — will help contribute to fire safety in nonresidential buildings.

V. Supporting/Reference Documentation

Explanation of Cost Estimates

FIRE PROTECTION EQUIPMENT (Information provided by the Dormitory Authority of the State of New York)

Unit Costs

All costs are listed as the price per square foot of building area to install sprinkler and fire alarm/smoke detection systems. These costs have been obtained from nationally used construction estimating publications (R.S. Means), fire safety experts, recent experience on DASNY construction projects, and discussions with contractors and cost consultants. Note that these costs exclude design fees, contingencies, escalation, general construction, asbestos abatement, etc. These costs are identified in year 2000 dollars.

Sprinklers

1. R.S. Means, *Square Foot Costs* (College Dormitory): $1.47 (new construction)
2. U.S. Fire Administration, *Fire Safe Student Housing*: $2.00–$3.00 (retrofit)
3. National Fire Sprinkler Association, Inc.: $1.75 (new construction), $3.00–$4.00 (retrofit)
4. Sprinkler contractors: $2.75–$3.00 (retrofit)
5. Recent DASNY projects: $2.49–$3.36 (new construction), $3.39–$5.18 (retrofit)
6. Cost Consultants: $2.00 (new construction), $3.50 (retrofit)

Fire Alarm/Smoke Detection Systems

1. Fire alarm contractors: $1.50–$2.00 (retrofit)
2. Recent DASNY projects: $1.32–$2.85 (new construction), $1.34–$3.30 (retrofit)
3. Cost Consultants: $2.00 (new construction), $3.00 (retrofit)

Sprinklers

Costs and percentages vary by project location, building size, height, floor plan, available water supply, and equipment and material requirements. Costs to install sprinklers in existing buildings — known as retrofit — have been modified from the unit costs previously indicated to include allowances for demolition, asbestos abatement, and associated general construction. Costs identified below do not include design fees, contingencies, and escalation.

New Construction

1. Unit Costs: typically $2.00 to $3.50 per sq.ft.
2. Percentage of overall construction costs: typically 1.5% to 2.5%.

Retrofit

1. Unit Costs: typically $3.00 to $7.00 per sq.ft. (Note that costs can vary greatly depending on the considerations identified above.)
2. Fire Pump with emergency generator: $1.75 per sq.ft.

Fire Alarm/Smoke Detection Systems

Costs and percentages vary by project location, building size, height, floor plan, and equipment and system requirements. Additionally, the selection of different types of smoke detectors in sleeping rooms — single station devices not connected to a building fire alarm system versus system devices that are connected — will affect the unit cost. Costs to install these systems in existing buildings — known as retrofit — have been modified from the unit costs previously indicated to include allowances for demolition, asbestos abatement, and associated general construction. Costs identified below do not include design fees, contingencies, and escalation.

New Construction

1. Unit Costs: typically $1.40 to $2.50 per sq.ft.
2. Percentage of overall construction costs: typically 0.7% to 1.5%.

Retrofit

Unit Costs: typically $1.75 to $3.5 per sq.ft. (Note that costs can vary greatly depending on the considerations identified above.)

Retrofit Cost Estimates

The Office of Fire Prevention and Control's Fire Safety Surveys returned from colleges and universities were used to estimate the total square footage of buildings not already provided with full smoke detection systems. Based upon those surveys returned and assuming the accuracy of the information on them, the following cost estimates were produced.

Buildings Without Full Smoke Detection Coverage

SUNY	10,000,000 sq.ft.	$2.75	$27,500,000
Contingency 10%:			2,750,000
Design fee 10%:			3,025,000
		Total:	$33,275,000

Independents	10,000,000 sq.ft.	$2.75	$27,500,000
Contingency 10%:			2,750,000
Design fee 10%:			3,025,000
		Total:	$33,275,000

§ 807. Fire drills . . .

3. It shall be the duty of the person in charge of every public or private college or university within the state, to instruct and train the students by means of drills, so that they may in a sudden emergency be able to leave the college or university building in the shortest possible time and without confusion or panic. Such drills shall be held at least three times in each year, one of which required drills shall be held between September first and December first of each such year. In buildings where summer sessions are conducted, one of such required drills shall be held during the first week of such summer session. At least one of such required drills shall be through use of the fire escapes on buildings where fire escapes are provided. At least one additional drill shall be held in each year during the hours after sunset and before sunrise in college or university buildings in which students are provided with sleeping accommodations.

4. Neglect by any principal or other person in charge of any public or private school or educational institution to comply with the provisions of this section shall be a misdemeanor punishable at the discretion of the court by a fine not exceeding fifty dollars; such fine to be paid to the pension fund of the local fire department where there is such a fund.

§ 807-b. College fire inspections.

1. It shall be the duty of the college authorities in general charge of the operation of any public or private college to cause the buildings under the jurisdiction of such college containing classroom, dormitory, fraternities, sororities, laboratory, physical education, dining or recreational facilities for student use to be inspected at least annually for fire hazards which might endanger the lives of students, teachers and employees therein.

2. The annual fire inspection for independent colleges shall be made between the first day of January and the first day of June of every year, and the reports thereof shall be filed by the college authorities in the places required by subdivision five of this section no later than the sixteenth day of June of each year. The annual fire inspection for public colleges shall be made between the first day of June and the last day of May of every year, and the reports thereof shall be filed by the college authorities in the places required by subdivision five of this section no later than ninety days after the date of the fire inspection.

3. a. The college authorities shall cause any fire inspection pursuant to this section to be made by one of the following methods, or any combination of such methods:

(1) Employing, either regularly or specially, persons who, in the judgment of the college authorities, are qualified to make such an inspection or any phase thereof.

(2) Contracting for the making of such inspections, or any phase thereof, by persons who, in the judgment of the college authorities, are qualified.

(3) Requesting inspection by the fire department of any city, town, village or fire district in which the building is located.

(4) Requesting inspection by a fire corporation which is subject to the provisions of section fourteen hundred two of the not-for-profit corporation law, if such building is located within the area described in the certificate of incorporation of any such corporation.

(5) Requesting inspection by the county fire coordinator, or the officer performing the powers and duties of a county fire coordinator pursuant to a local law, of the county in which the building is located, or by any deputy county fire coordinator or deputy of such other officer so performing the powers and duties of a county fire coordinator designated to make the inspection by the county fire coordinator or such other officer so performing the powers and duties of a county fire coordinator, if the building is located outside a city, town, village, or fire district, which has its own fire department and outside the area described in the certificate of incorporation of any fire corporation which is subject to the provisions of section fourteen hundred two of the not-for-profit corporation law.

b. No such inspection, or phase thereof, is to be made by either of the methods specified in subparagraphs (1) and (2) of paragraph a of this subdivision, until after the college authorities have requested a fire inspection by the methods of subparagraph (3), (4) or (5) of paragraph a of this subdivision and the persons or agencies empowered to perform such inspections pursuant to those subparagraphs have failed to do so within a reasonable time after such request was made and the college authorities shall give reasonable notice of the date and time such inspection is to be made to the chief, or other comparable officer, of any fire department, or fire corporation, which has the regular duty of fighting fire in the building to be inspected. Such officer, or any subordinate designated by him, may be present during the inspection and may also file a report of inspection in the manner provided in this section. The provisions of this subdivision shall not apply to college authorities of public colleges which are annually inspected by the division of fire prevention and control within the department of state.

c. If any fire department or fire corporation described in subparagraphs (3) and (4) of paragraph a of this subdivision shall fail or refuse to make a fire inspection promptly after having been requested to do so by the college authorities, the college authori-

ties may request the county fire coordinator, or the officer performing the powers and duties of a county fire coordinator pursuant to a local law, of the county in which the building is located to make such inspection. If such county fire coordinator or such other officer so performing the powers and duties of a county fire coordinator shall fail or refuse to make a fire inspection promptly after having been requested to do so by the college authorities, it shall be the duty of the college authorities to cause such fire inspection to be made by either method described in subparagraph (1) or (2) of paragraph a of this subdivision.

d. Regardless of the method or methods used to accomplish the inspection required by this section, the person making the inspection shall file the report thereof with the college authorities no later than the first day of June.

4. The state fire administrator shall prescribe the form of the fire inspection report and the commissioner of education shall furnish a supply of such form to college authorities. In prescribing such form the state fire administrator shall consider standards for fire safety set forth in the state building construction code, the state building conservation and fire prevention code and other safety standards.

5. The report of any fire inspection shall be filed in the office of the college authorities and with the commissioner of education. All such reports so filed in any public office shall be kept as public records for at least three years after which period they may be destroyed. In the case of fire reports prepared by persons making such inspections pursuant to paragraph b of subdivision three of this section, one copy of such report shall also be filed with the division of fire prevention and control, one copy with the county fire coordinator and one copy with the chief, or other comparable officer, of any fire department or fire corporation which has the regular duty of fighting fire in the building inspected.

6. It shall be the duty of the commissioner of education to ascertain annually whether the inspections of buildings under the jurisdiction of a college required by this section have been made and the reports of the inspection have been filed in their respective offices. The commissioner of education shall review the reports of inspection filed pursuant to this section and may make recommendations to the college authorities with respect to any problems relating to building fire safety noted in such reports. The commissioner of education may inspect or cause to be inspected at any reasonable time for fire prevention and fire protection purposes the buildings required to be inspected by this section. The commissioner of education may impose a fine of up to five hundred dollars per day upon any independent college which fails to timely comply with the filing requirements of this section.

7. Every public or private college building required to be inspected as herein above provided may be inspected for fire prevention and fire protection purposes at any reasonable time by

a. the chief of the fire department of the city, town, village or fire district in which the college building is located,

b. the chief of a fire corporation having its headquarters outside a village or fire district, if the college building is located in the area described in the certificate of incorporation of such company,

c. the chief of the fire department or fire company affording fire protection to a fire district, fire protection district, or fire alarm district pursuant to a contract, if the college building is located in any such district,

d. the member of any fire department or fire company listed in paragraphs a, b or c of this subdivision assigned by the chief thereof the duty of inspecting college buildings.

8. Any person, or any public or other corporation for which any such persons acts, shall not be liable for any error, omission or lack of thoroughness in the making of the inspection and report required or permitted by this section.

9. The term "college authorities", as used in this section, means the board of trustees, board of directors, or other governing board in general charge of the operation of any such college.

10. The term "public college" shall means and include "state-operated institutions", "statutory or contract colleges" and "community colleges" as defined in section three hundred fifty of this chapter.

11. The term "private college" shall mean colleges other than those included within subdivision ten of this section.

12. This section shall not apply to buildings under the jurisdiction of a college located in the cities of New York, Buffalo, Rochester, Syracuse, Yonkers and Albany.