

MEMORANDUM

To: Board of Regents
From: Board Office
Subject: Governance Report on Fire and Environmental Safety
Date: November 4, 2002

Recommended Actions:

1. Receive the governance report on fire and environmental safety.
2. Encourage the institutions to continue to correct identified deficiencies as expeditiously as possible within the limits of available funding.

Executive Summary:

Regent Policy Manual §9.13 requires the governance report on fire and environmental safety be presented to the Board in November of each year.

Institutional reports are to include results of the State Fire Marshal's latest inspection and programs completed or underway to correct outstanding deficiencies.

Potentially life-threatening deficiencies identified in inspections are promptly addressed and corrected, or facilities are closed until they can be made safe.

From FY 1993 through FY 2002 fire safety projects (excluding components of major renovations projects) totaled \$33.6 million in general fund (general education) facilities as summarized below:

University of Iowa	\$13.4 million
University of Iowa Hospital and Clinics	11.3 million
Iowa State University	6.4 million
University of Northern Iowa	1.5 million
Iowa School for the Deaf	.9 million
Iowa Braille and Sight Saving School	<u>.1 million</u>
Total	\$33.6 million

Excluding UIHC projects, which have been funded by Hospital Building Usage Funds, operating budget building repair / general university funds have provided slightly less than half the funding (47.5%) of fire safety improvements since FY 1993.

Current operating budget resources available to correct items are limited due to significant reductions in building repair funds (see G.D. 12) and the demand for funds among fire safety, deferred maintenance, and building renewal.

In this year's reports, the institutions have indicated that the reductions in building repair funds are negatively impacting their ability to correct fire safety deficiencies. A more complete discussion, including a history of building repair fund expenditures, is included in G.D. 12 – Governance Report on Deferred Maintenance.

In the past, capital appropriations have been requested from the State to fund improvements that are beyond the capability of the institutional operating budgets.

Due to the reduction in building repair funds and the importance of correcting identified deficiencies, the Board Office recommended and the Board approved, as its number one FY 2004 capital budget request, the sum of \$14.9 million to correct deferred maintenance and fire safety deficiencies at the Regent institutions.

Institutions indicate that \$5.1 million are needed (excluding costs of FY 2003 work and amounts included in major renovations) to correct fire safety deficiencies in general fund facilities identified in past inspections by the State Fire Marshal.

Progress in correcting fire safety deficiencies will continue to be challenged by new safety standards, aging buildings, limited budgets, and changes in building usage.

Strategic Plan:

Key Result Area 4.0.0.0 of the Board's Strategic Plan: Meet the objectives of the Board and institutional strategic plans and provide effective stewardship of the institutions' state, federal and private resources.

- Objective 4.3.0.0: Maintain and acquire physical facilities and equipment to meet stewardship responsibilities and changing institutional needs resulting from annual goal-setting and monitoring.

Correction of fire safety deficiencies is also addressed directly or indirectly in each institution's strategic plan.

Background:

Annual fire and environmental safety reports have been presented to the Board since 1988.

Fire and environmental safety standards are established by several agencies, including the State Fire Marshal, and federal and state governmental regulatory entities.

Deficiencies

The State Fire Marshal's office identifies deficiencies during biennial campus inspections, or campus personnel note the deficiencies.

Potentially life-threatening deficiencies are promptly addressed and corrected, or facilities are closed until they can be made safe.

Lesser risks are prioritized using multiple factors including hazard assessments and regulatory requirements.

Renovation projects and new construction must meet current building codes.

Funding Sources

The major funding sources for fire safety projects completed from FY 1993 through FY 2002 at the universities (excluding UIHC) and special schools include:

- General fund operating budget building renewal (repair funds) \$10.8 million
- Income from Treasurer's Temporary Investments (restricted funds) 4.5 million
- Proceeds from Academic Building Revenue Bonds and Capital Appropriations, as detailed below (restricted funds): 7.0 million

Prior State Support

The history of prior state support is summarized below:

1990 General Assembly — \$6 million in Academic Building Revenue Bonds for the Regent universities.

1991 General Assembly — \$20 million in Academic Building Revenue Bonds for deferred maintenance, fire and environmental safety, equipment and utility projects at the universities.

1994 General Assembly — \$2 million in Academic Building Revenue Bonds for fire and environmental safety and deferred maintenance at the universities.

1995 General Assembly — \$5 million capital appropriation from the Infrastructure Fund for fire and environmental safety, renovation and deferred maintenance at the universities.

- The University of Iowa and Iowa State University allocated \$1 million of each institution's \$2 million capital appropriation for fire and environmental safety projects.
- These funds were used to help complete the FY 1996 projects included in Table 1.

Infrastructure fund appropriations were made for FY 1996, FY 1998 and FY 1999 for fire safety improvements and installation of the visual alert system at the Iowa School for the Deaf.

1996, 1997, 2000 and 2002 General Assemblies – Appropriated various capital funds for major renovations; fire safety issues were and are being addressed as part of the following renovations:

- SUI – Biological Sciences, Phases I and 2, Engineering Modernization projects;
 - ISU – Gilman Hall Systems Upgrade; and
 - UNI – Lang Hall Renovation, and Integrated Teaching and Technology Center (East Gym Renovation).
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Analysis:

Fire Safety

The following table provides a comparison between Fall 2001 and Fall 2002 of the institutional estimates of costs needed to correct the fire safety deficiencies in general fund buildings as identified by the State Fire Marshal's Office.

FIRE SAFETY DEFICIENCIES		
Additional Funding Needed to Correct Fire Safety Deficiencies Identified by the State Fire Marshal¹ General Fund Facilities		
(\$ Thousands)		
	<u>FY 2002²</u>	<u>FY 2003³</u>
SUI	\$3,610.8 ⁴	\$3,263.0 ⁴
ISU	2,033.6 ⁵	1,733.9 ⁵
UNI	0.0	0.0
ISD	85.0	60.0
IBSSS	<u>0.0</u>	<u>0.0</u>
Total	\$5,729.4	\$5,056.9

¹Excludes work to be included as part of major renovations in the Board's Five-Year Capital Plan, in buildings to be demolished, and for which waivers from the State Fire Marshal are to be requested.

²As reported November 2001, excludes work to be undertaken during FY 2002.

³As reported November 2002, excludes work to be undertaken during FY 2003.

⁴Estimated cost for the University of Iowa to complete the fire safety program for all general fund and Oakdale buildings. No costs associated with work at UIHC are included; UIHC inspections are conducted by the Joint Commission on Accreditations of Healthcare Organizations (JCAHO).

⁵Does not include additional \$5.6 million in fire and building safety items identified by institutional personnel or improvements needed to address deficiencies at the Chemical Waste Handling Facility. The estimated cost of a new facility is estimated at \$10 million.

The University of Iowa, Iowa State University and the Iowa School for the Deaf each reported a decline in funds needed to correct deficiencies identified by the State Fire Marshal's Office.

- The institutions expended during FY 2002 and plan to expend in FY 2003 funds to address the deficiencies identified in the Fire Marshal's 2001 reports.

Prioritization

Each Regent institution cooperates with the State Fire Marshal in establishing fire safety priorities, and each institution has a systematic method for determining the priority of fire safety improvements to be undertaken.

Citations from the State Fire Marshal can be classified as (1) user, (2) maintenance, or (3) other deficiencies.

1. User deficiencies are housekeeping or procedural items such as the use of a doorstop to prop open a door or storage of an item in a hall.
2. Maintenance items usually require no design and minimal expenses per item, such as door repairs. These are corrected utilizing physical plant / facility management personnel and funds.
3. Other deficiencies, the correction of which requires an outlay of funds beyond the capability of physical plant (facility management) maintenance funds, are prioritized.

Institutional summary information on the latest inspection from the State Fire Marshal's Office, project prioritization, and procedures for including the correction of fire safety deficiencies in renovation projects is included in Appendix A beginning on page 9.

Other
Environmental
Safety Issues

In addition to fire safety deficiencies identified by the State Fire Marshal, funding is needed for environmental safety deficiencies identified by campus personnel and regulatory entities.

Environmental safety issues include asbestos, lead, underground storage tanks, spill prevention control and countermeasure plans, storm water pollution protection plans, polychlorinated biphenyl's (PCB's), mercury, the clean air act, and radioactive sites.

The institutions report that they are dealing appropriately with the issues, and have developed the necessary plans to address them.

Asbestos

In August 1994, the Occupational Safety and Health Administration (OSHA) promulgated new regulations covering asbestos abatement activities. The new standard took effect October 1, 1995, and increased the restrictions on construction activities and abatement actions. The standard also requires identification signage on asbestos-containing building materials.

Lead

In May 1993, OSHA issued new lead safety standards addressing workplace activities and practices that involve potential employee exposure to lead. Many renovation projects of older buildings may involve lead paint removal; these require compliance with OSHA lead abatement regulations.

EPA Region VII
Enforcement
Initiative

Region VII of the U.S. Environmental Protection Agency (EPA) has resumed inspecting Iowa colleges and universities for compliance with all environmental items under the agency's purview. These inspections follow the grace period that ended April 1, 2002.


Financing Projects

Fire safety projects totaling \$4.2 million (Table 1) are planned or will continue for FY 2003 in general fund, including UIHC, facilities. It is anticipated that operating budget building repair funds, income from treasurer's temporary investments, and UIHC building usage funds will fund these projects.

Current operating budget resources available to correct items are limited due to reductions in building repair funds (see G.D. 12) and the demand for funds among fire safety, deferred maintenance, and building renewal.

Capital appropriations are also requested from the State to fund improvements that are beyond the capability of the institutional operating budgets.

- The Board's Five-Year Capital Plan (FY 2004 – FY 2008) includes funds to address deferred maintenance and fire safety, including the amount of \$14.9 million in FY 2004.
- In addition, major remodeling projects included in the Board's Five-Year Capital Plan will correct certain fire safety deficiencies.
 - This includes the SUI Chemistry Building Renovation and the UNI Science Buildings Renovation, Phase 1a projects; the latter includes the renovation of the Physics Building. These projects are included in the Board's FY 2004 capital budget request.


Joan Racki


Approved: 
Gregory S. Nichols

Table 1
BOARD OF REGENTS, STATE OF IOWA
FIRE SAFETY PROJECTS*
GENERAL FUND FACILITIES
(\$ Thousands)

	<u>SUJ**</u>	<u>UIHC</u>	<u>ISU</u>	<u>UNI</u>	<u>ISD</u>	<u>IBSS</u>	<u>Total</u>
Projects:							
Completed Projects:							
FY 1993	\$ 1,476.5	\$ 507.3	\$ 1,135.6	\$ 551.3		\$ 11.0	\$ 3,681.7
FY 1994	721.2	619.2	365.6	447.3	\$ 111.5	6.9	2,271.7
FY 1995	1,664.2	619.4	153.6	62.5	97.5	10.9	2,608.1
FY 1996	2,233.4	55.0	2,163.7	83.6	211.5	4.0	4,751.2
FY 1997	1,320.0	380.0	235.8	63.8	91.5	41.2	2,132.3
FY 1998	1,401.0	1,552.3	735.9	126.3	125.0	8.1	3,948.6
FY 1999	1,696.0	1,880.8	288.0	12.2	225.0	8.4	4,110.4
FY 2000	1,272.0	2,335.0	219.0	64.3	12.0	1.0	3,903.3
FY 2001	944.0	2,071.7	538.3	77.5	1.0	-	3,632.5
FY 2002	718.0	1,322.7	542.8	8.2	25.0	-	2,616.7
Subtotal	\$ 13,446.3	\$ 11,343.4	\$ 6,378.3	\$ 1,497.0	\$ 900.0	\$ 91.5	\$ 33,656.5
Projects Planned for or Continued in FY 2003	\$ 1,000.0	\$ 2,533.2	\$ 551.9	\$ 25.0	\$ 20.0	\$ 71.5	\$ 4,201.6
Total	\$ 14,446.3	\$ 13,876.6	\$ 6,930.2	\$ 1,522.0	\$ 920.0	\$ 163.0	\$ 37,858.1
By Source of Funds:							
Building Renewal / General University	\$ 7,582.7		\$ 2,628.8	\$ 519.9	\$ 507.0	\$ 163.0	\$ 11,401.4
Income from Treasurer's Temporary Investments	4,276.0		1,094.7	174.8	-	-	5,545.5
Academic Building Revenue Bonds	1,587.6		2,206.7	826.0	-	-	4,620.3
Special and Capital Appropriations	1,000.0		1,000.0		385.0	-	2,385.0
University Hospital Building Usage Funds		\$ 13,876.6					13,876.6
Other				1.3	28.0		29.3
Total	\$ 14,446.3	\$ 13,876.6	\$ 6,930.2	\$ 1,522.0	\$ 920.0	\$ 163.0	\$ 37,858.1

* Does not include fire safety components of major renovation projects.

**SUJ - Excludes UIHC; includes projects approved and funded for FY 93 - FY 02; for FY 1993 also includes projects completed with Academic Building Building Revenue Bonds, 1991.

**Appendix A
Institutional Fire Safety Summaries**

**UNIVERSITY OF
IOWA**

State Fire Marshal
Inspections

The inspection undertaken by the State Fire Marshal's Office during the summer of 2001 identified major deficiencies in Oakdale Hall, the Field House and the Medical Education Building.

- Some space in the C200 - S200 wings in Oakdale Hall was vacated as requested by the State Fire Marshal's Office; corrective work has been completed.
- The deficiencies in the Field House and Medical Education Building concern adequate exiting; discussions with personnel from the State Fire Marshal's Office will be scheduled after the University completes its analysis of the problems and identifies plans for correction.

The University has yet to receive the report from the 2002 inspection by the State Fire Marshal's Office.

Structural
Compliance

The University estimates that, by the end of FY 2003, 89% of the main campus, general fund space will be in general structural compliance with fire safety codes.

General structural compliance is defined as the absence of fundamental building deficiencies, such as inadequate exiting, the lack of proper corridor separation, or the absence of a fire alarm system.

The following table summarizes percentages of structural compliance reported since FY 1998.

Main Campus General Fund Space
Estimated % in Structural Compliance
Fiscal Year Ending June 30

<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
59%	72%	79%	87%	86%	89%

Prioritization The University of Iowa utilizes, for some buildings, the National Fire Protection Association's Fire Safety Evaluation System (FSES) approach, which prioritizes projects in terms of each building's overall fire safety rather than on the basis of each individual deficiency within each building.

This proactive approach identifies comprehensive building fire safety issues rather than responding to specific violations.

Fire safety in existing buildings is assessed to determine the best way to provide protection equivalent to current code requirements (an equivalent level of life safety). Buildings which meet FSES standards are assumed to be at a level of safety equivalent to the requirements of Iowa Administrative Code.

The former State Fire Marshal endorsed the application of the FSES. The University is preparing documentation to finalize an agreement with the current State Fire Marshal regarding the use and application of the system in University (excluding UIHC) buildings.

Components of Renovations The University evaluates how fire code requirements fit into each renovation project. If needed by code requirements, major renovation projects can address building-wide fire safety issues, such as alarm systems, and fire separation and egress routes.

Recent examples of renovation projects which include correction of fire safety projects are the Engineering, Biological Sciences and Hydraulics Laboratory modernization projects.

UIHC

JCAHO Inspections Life safety code and fire safety inspections for the University of Iowa Hospitals and Clinics inspections are deferred by the State Fire Marshal to the Joint Commission on Accreditations of Healthcare Organizations (JCAHO) site survey. A JCAHO site survey was held in October 2001.

The UIHC has embarked upon a major program to enhance fire safety. The program includes 100 percent sprinkler coverage of the hospital buildings and conversion of the current antiquated fire alarms to an addressable fire alarm system.

The computer-based addressable fire alarm system provides faster response to alarms by pinpointing alarm locations and reduces maintenance requirements by automatic sensitivity tests and early warning of bad or dirty detectors.

The UIHC has incorporated the 100 percent sprinkler coverage and addressable fire alarm system into its Five-Year Capital Program. The fire safety portion of the Five-Year Plan has also been submitted to and accepted by JCAHO.

**IOWA STATE
UNIVERSITY**

**State Fire Marshal
Inspections**

The State Fire Marshal's Office conducted its last inspection of Iowa State University academic facilities in 2001; the inspection included 47 facilities. According to the University, the Fire Marshal indicated that overall he was pleased with the progress the University was making and the commitment of the maintenance staff.

The Fire Marshal's report included references to inadequate exiting in the basement of Andrew Richards House and the third floor of Forker Hall.

- The University's FY 2002 listing of completed fire safety projects includes the installation of corridor smoke detection systems in both buildings; this was an accepted means by the State Fire Marshal's Office to address these deficiencies.

The State Fire Marshal issued three citations for the chemical storage facility; all of the deficiencies have been previously cited.

- At its May 2002 meeting, the Board granted the University permission to proceed with planning for construction of a new Environmental Health and Safety (EHS) / Regulated Materials Facility, which will house EHS staff and facilities for processing and storing hazardous waste materials for all on-campus, extension and research farm activities of the University.
- The anticipated cost of the project is \$10 million, which will be funded by a combination of Overhead Use of Facilities Funds and revenue bonds.
- At its September 2002 meeting, the Board approved an architectural agreement with Architects Smith Metzger for the pre-design phase of the project.

Prioritization

Eminent fire and environmental risks are always addressed immediately. The University utilizes a prioritization approach that ranks fire safety deficiencies identified by the State Fire Marshal at the top of its list. Remaining projects are ranked according to a risk rating priority method developed by the University's Department of Environmental Health and Safety (EH&S) and accepted by the State Fire Marshal.

The Department of Environmental Health and Safety (EH&S) reviews plans and designs for new buildings and renovation projects for fire safety deficiencies. This information is shared with project designers and engineers who may also consult with EH&S on fire code issues and problem resolution involving fire safety deficiencies.

Components of Renovations Ongoing remodeling / renovation activities which are correcting deficiencies reported by the State Fire Marshal include Beardshear, Hamilton and Gilman Halls.

**UNIVERSITY OF
NORTHERN IOWA**

State Fire Marshal Inspections The State Fire Marshal's representative last surveyed the University between June and September 2001.

This inspection identified 150 items in 37 academic buildings. According to the University, 65 deficiencies were procedural in nature. Fifty-six of the deficiencies were corrected during FY 2002 using approximately \$8,200 of materials; no labor costs are included.

It is planned that deficiencies in Physics, Russell, Sabin and Price Laboratory School requiring design development would be corrected as part of major capital projects included in the Board approved Five-Year State-Funded Capital Plan (FY 2004 – FY 2008).

The other two fire safety violations requiring design development are not high cost, and the University reports that these would normally be supported through building repair or maintenance funding.

Prioritization The University of Northern Iowa prioritizes those items where the potential risk to human life is the greatest.

Components of Renovations When planning renovation projects, the University's Facilities Planning office reviews the fire safety deficiencies and addresses those deficiencies as part of the project. Major renovation projects that may have an impact on fire safety systems already in place are sent to the State Fire Marshal's Office for review.

Fire safety deficiencies previously identified in Lang Hall were corrected during its recent renovation. Deficiencies identified in the East Gym will be corrected as part of the Integrated Teaching and Technology Center Renovation project.

**IOWA SCHOOL FOR
THE DEAF**

**State Fire Marshal
Inspections**

The State Fire Marshal's most recent fire safety inspection took place during the summer of 2001. The School reports that it aggressively addressed and resolved approximately 180 of the 228 citations.

The remaining 48 citations are predominantly located in uninhabited areas of Giangreco Hall. The Fire Marshal's report noted that the third floor of the east wing is not to be used for sleeping rooms until there has been compliance with the code regulations. The School will address these citations as part of future remodeling projects.

Two of the citations in the swimming pool area in Long Hall are no longer applicable since this area has been closed with the opening of the Recreation Complex.

Prioritization

The School's priority has always been to address citations in the student areas first. Citations for uninhabited or unused areas are assigned a low priority and addressed as funds permit.

**IOWA BRAILLE AND
SIGHT SAVING
SCHOOL**

**State Fire Marshal
Inspections**

The State Fire Marshal's Office conducted its most recent inspection at the Iowa Braille and Sight Saving School in September 1997. Of the seven citations, five were corrected by November 30, 1997.

The other two citations related to the recently installed fire doors in Rice and Palmer Halls which did not have the proper fire rating for their proximity to the fire escapes. Additional fire alarm sensors were installed in the affected areas for added safety. The School sought a variance from the State Fire Marshal to continue to use the doors in October 1999; to date, the State Fire Marshal's Office has not acted on the request.

Prioritization

The safety and well-being of the students and staff of the School continues to be a priority. In the recent past, the most pressing fire safety issue has been the age and capabilities of the fire alarm systems. All systems replaced in the mid 1990s are working correctly.

Although not cited in the last Fire Marshal's report, the School continues to refurbish, retrofit or replace emergency exit lights and install specialized door holders in the dormitories. The electronic door holders provide student access without compromising fire safety. They are interconnected with the fire alarm system and automatically close the door when the alarm system is activated.

At the recommendation of the School's property insurance carrier, a fire sprinkler system is being installed in the attic of the Main Building as well as the bell tower.

- A "dry" system is required to prevent freeze-up because the space is unheated.
- The new system, which replaces heat sensors in the space, will protect occupants and the building should any fire start in the attic or bell tower area.
- Sprinkler heads are being added throughout the building to augment the system, which was installed in 1964.