

MEMORANDUM

To: Board of Regents
From: Board Office
Subject: Governance Report on Fire and Environmental Safety
Date: November 5, 2001

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 Procedural Guide §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.

From FY 1993 through FY 2001 fire safety projects (excluding components of major renovations projects) totaled \$30.5 million in general fund facilities as summarized below:

University of Iowa	\$12.7 million
University of Iowa Hospital and Clinics	9.5 million
Iowa State University	5.8 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	\$30.5 million

Although the institutions indicated that projects totaling \$6.2 million are planned or will continue in FY 2002, this information was received prior to announcement of the 4.3% deappropriation and institutional budget reductions in building repair funds for this year. (See G.D. 13 for a more complete discussion of this topic.) Thus, planned expenditures for fire safety projects could be reduced.

Institutions indicate that \$5.7 million are needed (excludes costs of FY 2002 work and amounts included in major renovations) to correct fire safety deficiencies 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, 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. The University of Iowa also requested a special inspection by the Iowa City Fire Marshal, which was conducted during 1998.

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 Some of the funding sources used in the past to correct deficiencies include:

Proceeds from Academic Building Revenue Bonds;
General fund budget building renewal (repair) funds;
Capital appropriations; and
Income from Treasurer's Temporary Investments

Prior State Support 1990 General Assembly — \$6 million in Academic Building Revenue Bonds for universities.

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

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

1995 General Assembly — \$5 million 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 appropriation for fire and environmental safety projects.
- These funds were used to help complete the FY 1996 projects included in Table 1.

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, and 2000 General Assemblies – Appropriated 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.
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Analysis:

The following table provides a comparison between Fall 2000 and Fall 2001 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 2001</u> ²	<u>FY 2002</u> ³
SUI	\$3,208.1 ⁴	\$3,610.8 ⁴
ISU	524.7 ⁵	2,033.6 ⁵
UNI	0.0	0.0
ISD	0.0	85.0
IBSSS	<u>0.0</u>	<u>0.0</u>
Total	<u>\$3,732.8</u>	<u>\$5,729.4</u>

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

²As reported November 2000, excludes work to be undertaken during FY 2001.

³As reported November 2001, excludes work to be undertaken during FY 2002.

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 being evaluated.

While both the University of Iowa and Iowa State University continue to spend significant sums on fire safety projects (see Table 1 on page 12), the costs needed to correct deficiencies identified by the State Fire Marshal have increased since last year's report.

The University of Iowa attributes the increase in funding needed to correct fire safety deficiencies to a combination of information received from the 2001 inspection by the State Fire Marshal's Office, which included 15 academic / administrative buildings, better cost information, inflationary increases, and the cost of maintaining and replacing fire alarm and detection systems.

The State Fire Marshal's Office conducted its last inspection of Iowa State University's academic buildings in 2001. While the University has made a systematic effort to address the deficiencies detailed in the 1999 inspection by the State Fire Marshal's Office, the most recent inspection has noted additional deficiencies, and the costs of other corrective actions have increased.

The costs reported for the Iowa School the Deaf result from the 2001 inspection by the State Fire Marshal's Office. (An inspection had not been done since 1995.)

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 forces 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.

UNIVERSITY OF IOWA

State Fire Marshal Inspections

The State Fire Marshal's inspection during the summer of 2000, which surveyed 26 academic buildings, identified significant deficiencies in the Communications Center, the International Center and Seashore Hall. In last year's report, the University reported that corrective action would begin as funds became available.

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 S200 wing in Oakdale Hall has been vacated as requested by the State Fire Marshal's Office and corrective work is underway.
- 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 plans to address these deficiencies by the use of FY 2003 funds.

Iowa City Fire
Marshal Inspections

The Iowa City Fire Marshal inspected 35 buildings in a special inspection program conducted in 1998.

- The intent of this inspection, which was conducted at the University's request, was to determine the level of fire safety present in a number of minor structures not customarily inspected by the State Fire Marshal.
- The inspection focused on structural, not housekeeping, types of deficiencies.
- Nine buildings have been razed since the inspection or are scheduled soon for removal; 12 buildings were free of structural violations. Violations in the remaining 14 buildings were primarily related to the need for improved exiting and fire alarms.
- The University anticipates that exiting and fire alarm issues in Shambaugh House will be corrected as part of the relocation of the building in late fall of 2001.
- The University plans to include corrections of the identified deficiencies in future fire safety correctional programming.

Structural
Compliance

The University estimates that, by the end of FY 2002, 86% 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 End of				
<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>
59%	72%	79%	87%	86%

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 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.

Current 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 planned fire safety projects includes the installation of corridor smoke detection systems in both buildings, as an accepted means to address these deficiencies.

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

- The University reports that the existing facility needs to be replaced even though the location of the current facility, the lack of regular occupants, and regular inspection and maintenance schedules minimize safety concerns.
- The University has retained the services of a local engineering firm to prepare a feasibility study and cost estimate for a Regulated Materials Facility; the University plans to bring forward a preliminary project budget for Board approval at the conclusion of this process.
- The University has indicated that progress on the project has been impacted by the state's budget reductions.

Prioritization of
Projects

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 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 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, but the University has yet to receive official notification of the results of the survey.

The 1999 inspection identified 120 items in 33 academic buildings. According to the University, 92 deficiencies were corrected during FY 2000 and FY 2001 at a cost of approximately \$77,500. Variances for two deficiencies will be requested and four deficiencies will be addressed

during building renovations.

Prioritization of Projects The University of Northern Iowa prioritizes those items where the potential risk to human life is the greatest. Maintenance deficiencies identified during previous inspections generally receive priority consideration.

Components of Renovations When planning renovation projects, the 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.

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 145 of the 228 citations.

The remaining 83 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 will no longer be applicable when the Recreation Complex is completed and the current swimming area is closed.

Prioritization of Projects The School's priority has always been to address first those citations in the student areas. 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.

Prioritization of Projects 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 magnetic 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.

**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 addressed in the institutional reports 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.

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 will require compliance with new OSHA lead abatement regulations.

**EPA Region VII
Enforcement
Initiative**

Region VII of the U.S. Environmental Protection Agency (EPA) has announced an enforcement initiative directed towards colleges and universities; it held a conference on Regulatory and Compliance Overview in August 2001.

- According to attendees from Iowa State University, the presentations hinted on "multi-media" (all environmental items under the agency's purview) compliance inspections.
- However, the two programs which received the most attention were the Resource Conservation and Recovery Act (RCRA) (covering the management of nonhazardous, hazardous and medical waste) and the Spill Prevention, Control and Countermeasures (SPCC) program (part of the Oil Pollution Prevention Regulation) under the Clean Water Act.

Financing Projects Projects totaling \$6.2 million (Table 1) are planned or will continue for FY 2002 in general fund facilities. Building repair funds, income from treasurer's temporary investments, and UIHC building usage funds are expected to fund these projects.

Current operating budget resources available to correct items are limited due to FY 2002 budget constraints and the demand for funds among fire safety, deferred maintenance, and building renewal.

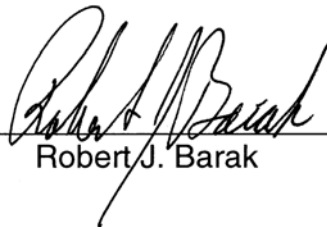
An analysis of building repair budgets is included in the docket item on deferred maintenance (See G.D. 13.)

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 2003 – FY 2007) includes \$10.0 million in funds to specifically address the fire and environmental deficiencies, including \$2.0 million in FY 2003.
- In addition, major remodeling projects included in the Board's Five-Year Capital Plan will correct certain fire safety deficiencies.



Joan Racki

Approved: 

Robert J. Barak

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

Projects:	<u>SUI**</u>	<u>UIHC</u>	<u>ISU</u>	<u>UNI</u>	<u>ISD</u>	<u>IBSSS</u>	<u>Total</u>
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	1,536.6	538.3	77.5	1.0	-	3,097.4
Subtotal	\$ 12,728.3	\$ 9,485.6	\$ 5,835.5	\$ 1,488.8	\$ 875.0	\$ 91.5	\$ 30,504.7
Projects Planned for or Continued in FY 2002	\$ 600.0	\$ 4,976.0	\$ 532.1	\$ 25.0	\$ 22.0	\$ 3.5	\$ 6,158.6
Total	\$ 13,328.3	\$ 14,461.6	\$ 6,367.6	\$ 1,513.8	\$ 897.0	\$ 95.0	\$ 36,663.3
By Source of Funds:							
Building Renewal / General University	\$ 6,964.7		\$ 3,160.9	\$ 511.7	\$ 484.0	\$ 95.0	\$ 11,216.3
Income from Treasurer's Temporary Investments	3,776.0			174.8			3,950.8
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		\$ 14,461.6					14,461.6
Other				1.3	28.0		29.3
Total	\$ 13,328.3	\$ 14,461.6	\$ 6,367.6	\$ 1,513.8	\$ 897.0	\$ 95.0	\$ 36,663.3

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

**SUI - 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.