MEMORANDUM

To: Board of Regents

From: Board Office

Subject: Governance Report on Fire and Environmental Safety

Date: November 8, 1999

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:

The Regent Procedural Guide (§9.13) requires that an annual governance report on fire and environmental safety be presented to the Board in November of each year. The institutional reports are to include the results of the State Fire Marshal's latest inspection and should detail programs completed or underway to correct outstanding deficiencies.

The report helps ensure that the Board provides good stewardship of facilities in accordance with its Strategic Plan (Key Result Area 4.0.0.0). Fire and environmental safety standards are set by several agencies, including the State Fire Marshal and federal and state governmental regulatory entities.

In recent years, the institutions have made major efforts to correct fire safety deficiencies identified by the State Fire Marshal's office and campus personnel. From FY 1993 through FY 1999, fire safety projects totaling $23.5 million (Table 1) were completed in general fund facilities, including $10.5 million at the University of Iowa, $5.6 million at the University of Iowa Hospitals and Clinics, $5.1 million at Iowa State University, $1.3 million at the University of Northern Iowa, $0.9 million at the Iowa School for the Deaf and $0.1 million at Iowa Braille and Sight Saving School. These sums do not include fire safety projects addressed as components of major renovation projects. Fire safety projects totaling $8.7 million are planned or will continue for FY 2000.

While substantial progress has been and is being made to correct deficiencies, continuing commitments for fire and environmental safety are required. Future progress will be challenged by new safety standards, aging buildings and changes in building usage. Identified deficiencies which are potentially life threatening 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. Each institution has a process in place to ensure that fire safety deficiencies are incorporated into renovation projects. All renovation projects and new construction must meet applicable building codes.

The institutions have indicated that $4.4 million in additional funding is needed to correct deficiencies identified in past inspections by the State Fire Marshal. This amount excludes the deficiencies which will be corrected as part of major projects and work planned for FY 2000.

Background:

The first report on fire safety at the Regent institutions was submitted to the Board in March 1988. Annual reports have been presented since that time.

Fire safety deficiencies at the Regent institutions are identified either by the State Fire Marshal's office during biennial campus inspections or by campus personnel. The University of Iowa also requested a special inspection by the Iowa City Fire Marshal which was conducted during 1998.

In recent years, the institutions have made major efforts to correct identified deficiencies, as detailed on Table 1 (page 11), and are committed to further improvements.

For the period FY 1993 – FY 1999, the institutions expended $23.5 million to correct deficiencies in general fund facilities. In addition to this sum, major renovation projects also correct fire and environmental safety issues as integral components. A variety of fund sources, including proceeds from the sale of Academic Building Revenue Bonds, building renewal (repair) funds, capital appropriations and other sources, have provided the funds for the corrective actions.

The General Assembly has been supportive of institutional efforts to correct fire and environmental safety deficiencies. The 1990 General Assembly authorized $6 million in Academic Building Revenue Bonds to complete fire and environmental safety projects at the three universities. The 1991 General Assembly provided $20 million in bonding authorization for the universities in the

FY 1992 capital program for deferred maintenance, fire and environmental safety, equipment and utility projects.

The 1994 General Assembly provided $2 million in bonding authorization for the universities for fire and environmental safety and deferred maintenance. The 1995 General Assembly appropriated $5 million for fire and environmental safety, renovation and deferred maintenance at the universities. The University of Iowa and Iowa State University each 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.

In recent years, funds have been appropriated to the Iowa School for the Deaf for its campus-wide visual alert system and to address citations of the State Fire Marshal's office.

The 1996 and 1997 general assemblies appropriated funds for major renovations at the Regent institutions, including the SUI – Biological Sciences and Engineering Modernization projects and UNI – Lang Hall Renovation. Fire safety issues are being addressed in each of these projects.

Analysis:

This section includes subsections on A) Identification of Fire Safety Deficiencies, B) Prioritization of Fire Safety Projects and Inclusion of Fire Safety Projects in Renovations, C) Environmental Safety Issues and D) Financing Future Fire and Environmental Safety Projects.

A. Identification of Fire Safety Deficiencies

Changing safety standards, aging buildings, and changes in building usage will require continuing commitments for fire and environmental safety.

The following table provides a comparison between Fall 1998 and Fall 1999 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 Marshal[1]
General Fund Facilities

($ Thousands)

	FY 1999[2]	FY 2000[3]
SUI	$3,114.5[4]	$3,500.0[4]
ISU	397.0[5]	924.6[5]
UNI	0.0	0.0
ISD	100.0	0.0
IBSSS	0.0	0.0
Total	$3,611.5	$4,424.6

[1]Excludes 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.

[2]As reported in November 1998 and excludes work to be undertaken during FY 1999.

[3]As reported in November 1999 and excludes work to be undertaken during FY 2000.

[4]Estimated cost for the University of Iowa is the current estimate to complete the fire safety program for all general fund and Oakdale buildings.

[5]Does not include additional $6 million in fire and building safety items identified by institutional personnel or the Waste Chemical Facility identified by the State Fire Marshal; the latter would be a separate capital project with an estimated cost of $3.8 million.

Funds needed to correct deficiencies identified by the State Fire Marshal have increased from Fall 1998 to Fall 1999 for the University of Iowa and Iowa State University. The results of recent inspections undertaken by the State Fire Marshal's office have been incorporated into the cost estimates. The University of Iowa has also included the costs of work identified in the recent inspection of the Iowa City Fire Marshal. The University has also identified a need to upgrade

or replace the fire alarm system in the Dental Science Building. The Iowa School for the Deaf has eliminated deficiencies as a result of systematic progress in correcting deficiencies identified in the 1995 State Fire Marshal's inspection.

University of Iowa

Since the submission of the 1998 report on fire and environmental safety, the University has received reports of two fire safety inspections: 1998 inspection by the State Fire Marshal and the results of a special inspection by the Iowa City Fire Marshal, which was conducted at the University's request. The intent of the second inspection was to determine the level of fire safety present in a number of minor structures not customarily inspected by the State Fire Marshal.

The State Fire Marshal's office conducted its most recent survey of academic buildings at the University of Iowa during the summer of 1998. The Fire Marshal surveyed 19 academic buildings. Major deficiency problems identified during the inspection were associated with the Medical Research Facility, the International Center, and the Botany Plant House. Correctional efforts are underway for the deficiencies cited in the Medical Research Facility with funds programmed for FY 2000. The deficiencies in the International Center are expected to be programmed for correction in FY 2001. Preliminary plans call for the demolition of the Botany Plant House after the relocation of research activities presently housed in the building.

The 1994 survey by the State Fire Marshal's office identified 55 capital items in the 19 buildings surveyed in 1998. By 1998, the number of needed capital items in these buildings had been reduced to 42 including 21 in the International Center, 1 in the Medical Research Facility and 6 in the Botany Plant House referenced above.

The Iowa City Fire Marshal inspected 35 buildings in the special inspection program. Nine buildings have been razed since the inspection or are scheduled soon for removal. Of the 35 facilities, 12 buildings were free of structural violations. Violations cited in the remaining 14 buildings were primarily related to the need for improved exiting and fire alarms. The University plans to include corrections of the identified deficiencies in future fire safety correctional programming.

The University of Iowa estimates that, by the end of FY 2000, 79% 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.) Last year the University reported that, by the end of FY 1999, 72% of the main campus general fund space

would be in structural compliance. In FY 1998, a 59% compliance factor was reported.

The above total for the University of Iowa does not include costs for the University of Iowa Hospitals and Clinics; life safety code and fire safety 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 completed in October, 1998 and the next scheduled survey will be Fall 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. Sprinkler coverage of all hospital areas is required by current fire safety codes. The addressable fire alarm system is computer based and provides faster response to alarms by pinpointing alarm locations. 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

The State Fire Marshal's office conducted its last inspection of Iowa State University academic facilities in 1999; a report of this inspection has been received. Two of the facilities surveyed, which have received multiple citations, are the Insectary and the Chemical Waste Handling Facility.

The State Fire Marshal's report recommended that the University make plans to remove the wood-framed shop near the Insectary greenhouses that is being used for repair facilities. The University's list of projects planned for FY 2000 includes removal of the wood-framed shop as priority #16, with at an estimated cost of $105,000.

The State Fire Marshal has issued 4 citations for the chemical storage facility. The University reports that, although the existing facility has been cited, it is in a remote location with no regular occupants and with relatively low exposure to populated areas or other facilities. Last year the University reported that it hoped to reach a decision within the year on whether to build a new facility or close the current facility and ship the materials to other processors or commercial facilities.

No decision has yet been reached and the University continues to evaluate possible funding sources for the development of a new facility. It hopes to develop a plan during the current fiscal year. A concept that is being evaluated is to site the new facility in the vicinity of the College of Veterinary Medicine with the

College sharing some of the space and cost to accommodate its solvent storage needs.

The estimated cost to construct a new facility to meet EPA, OSHA and state building code requirements is $3.8 million. The new facility appeared on the University's FY 1998, FY 1999 and FY 2000 capital plans (presented to the Board in June 1997, June 1998, and June 1999 respectively).

University of Northern Iowa

The State Fire Marshal's representative completed the most recent survey at the University of Northern Iowa in October 1999. A report on the inspection was received after the University prepared its 1999 fire safety report so the University's report focuses on the results of the 1997 survey.

The State Fire Marshal's inspection at the University of Northern Iowa in 1997 identified 123 items in 33 academic buildings. A total of 74 deficiencies were corrected by October 14, 1998 and an additional 17 were corrected by October, 1999. Seven citations were identified in Lang Hall which are being addressed as part of the current renovation project.

In last year's report the University anticipated correcting all remaining citations from the 1997 report by July 1, 1999. The University now reports that 19 maintenance deficiencies will be targeted to be completed prior to the end of the 1999 calendar year and six items will be carried into the 2000 calendar year.

Iowa School for the Deaf

The most recent fire safety inspection at the Iowa School for the Deaf took place in 1995. This inspection, which was much more thorough than previous inspections, resulted in 240 citations. At the conclusion of FY 1997, approximately 166 citations had been resolved with an additional 20 citations addressed during FY 1998. Additional citations were addressed during FY 1999 and the School will work on the last 30 citations, including requests for variances for uninhabited areas, during FY 2000.

Iowa Braille and Sight Saving School

The State Fire Marshal's office conducted its most recent inspection at the Iowa Braille and Sight Saving School in September 1997. Of the 7 citations, 5 were corrected by November 30, 1997. The other two citations relate 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 has sought a variance from the State Fire Marshal to continue to use the doors.

B. Prioritization of Fire Safety Projects and Inclusion of Fire Safety Projects in Renovations

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.

- 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.

- Maintenance items usually require no design and minimal expenses per item, such as door repairs. These are corrected utilizing physical plant forces and funds.

- Other deficiencies, the correction of which requires an outlay of funds beyond the capability of physical plant maintenance funds, are prioritized.

University of Iowa

The University of Iowa is utilizing, for some buildings, the National Fire Protection Association's Fire Safety Evaluation System 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 approach is proactive, identifying comprehensive building fire safety issues, rather than reactive, 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).

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 and current major projects with prominent fire safety components include the Macbride Hall auditorium renovation, in which a new fire panel was installed to serve the entire building and a sprinkler system was installed. The sprinkler system will eventually be attached to a building system. The Engineering

Building Modernization project includes a fire alarm upgrade integrated with the new addition.

Iowa State University

Iowa State University utilizes a prioritization approach that ranks at the top of its list fire safety deficiencies by the State Fire Marshal. Remaining projects are ranked according to a risk rating priority method developed by the Department of Environmental Health and Safety and accepted by the State Fire Marshal.

The University's 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.

Recent major remodeling projects which corrected deficiencies reported by the State Fire Marshal's office include the Student Services Building and State Gym. Projects currently in design which will address deficiencies include those in Pearson Hall and Beardshear Hall.

University of Northern Iowa

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

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.

C. 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.

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.

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.

Underground storage tanks used for heating oil are exempt from registration requirements. Tanks storing gasoline and diesel fuel had to be upgraded or removed from service prior to December 22, 1998. All tanks at the University of Iowa and Iowa State University, which were required to meet the EPA standards by the December 1998 date, met the standards.

D. Financing Future Fire and Environmental Safety Projects

Projects totaling $8.7 million (Table 1) are planned or will continue for FY 2000 in general fund facilities. 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 because of the demand for funds among fire safety, deferred maintenance, and building renewal. The Board's FY 2001 operating appropriations request includes a total of $0.8 million in building repair funds for the University of Iowa, University of Northern Iowa and Iowa Braille and Sight Saving School to help avoid adding to the list of deferred maintenance requirements and ensure steady progress in the removal of fire and other environmental safety deficiencies.

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 2001 – FY 2005) includes $10 million in funds to specifically address the deficiencies, including $2 million in FY 2001. In addition, major remodeling projects included in the Board's Five-Year Capital Plan will correct fire safety deficiencies.

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