STATE BOARD OF REGENTS

COMMITTEE ON EFFICIENCY AND COST EFFECTIVENESS

FINAL REPORT

MAY 1984

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THOMAS M. SHIVE
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MARSHALLTOWN, IOWA 50158

May 16, 1984

S. J. Brownlee, President
State Board of Regents
Lucas State Office Building
Des Moines, IA 50319

Dear President Brownlee:

On behalf of the Regents Committee on Efficiency and Cost Effectiveness, I am pleased to submit this report to you. Over the past eight months, the committee has worked through its various task forces to review the business operations of the Board of Regents institutions with an eye toward reducing costs, maximizing revenue, and increasing efficiency.

Seventy recommendations are made in this report, with a potential dollar impact of over $29 million during the next three fiscal years. The committee found that the Regent institutions are generally well-managed. However, cost savings, cost containment and increased efficiencies are possible through the application of the new ideas and technologies recommended in the report. The committee believes that these recommendations can be implemented by using the Regents present governance structure with the support of the General Assembly and the Governor on those recommendations requiring statutory change. In addition, these recommendations should be periodically reviewed to make certain that changes in management concepts and available technology are taken into consideration.

The project could not have been completed without the efforts of many fine public and private sector officials. The task force members, the institutional officials and the Board Office staff deserve particular thanks for their long hours of work on this project. I am certain that I convey the feelings of the committee in saying that it has been a very real pleasure to work with all of the people that dedicated their time, energy and talents to this project.

The committee appreciates this opportunity to contribute to Regent operations. Although the formal efforts of the committee are completed with the issuance of this report, the committee members will continue their support for the implementation of the recommendations made in this report. We stand ready to assist you in that effort.

Sincerely,

Thomas M. Shive

Thomas M. Shive
Chairperson

TS:w

Enclosure

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Introduction

In March of 1983, Governor Branstad asked the Board of Regents to conduct a study of efficiency and effectiveness of Regent business operations. This study was requested to be patterned after a parallel study of the business operations of the remainder of state government conducted by the Governor's Task Force on Efficiency and Effectiveness.

The Board of Regents authorized such a study and established the Regents Committee on Efficiency and Cost Effectiveness to conduct a review of the nonacademic operations of the Regent institutions. The Regents committee is composed of nine representatives of the institutions and private sector, with a deep interest in improving the efficiency of the Regent operations, while at the same time, enhancing their effectiveness. A list of the members of the committee follows:

Thomas M. Shive, Chairperson
Recently Retired President of
Fisher Controls
Marshalltown

Eleanor M. Birch, Associate Dean
College of Business Administration
University of Iowa

Robert W. Boeke
Senior Vice President and Director
John Deere & Co.
Moline, IL

Neil E. Harl
Distinguished Professor in Agriculture
& Professor of Economics
Iowa State University

Fred W. Nolting
Rath Packing Company
Waterloo

Claire I. Rice
Retired Vice President of Marketing &
International Operations for
for Rockwell International's
Commercial Electronics Operations;
Retired President, Rockwell-Collins
Cedar Rapids

Marvin Selden
Former State Comptroller
President, Odea Finance Services
Des Moines

Harry G. Slife
President, Black Hawk Broadcasting Co.
Waterloo

Neil B. Wilson
Associate Professor, Department of
Marketing
University of Northern Iowa

Committee members Selden and Rice were unable to attend several committee meetings.

It is important to note, at the outset, the scope of the charge given the committee. Consistent with the Governor's directive for his task force, the Regents Committee on Efficiency and Cost Effectiveness was charged with looking only at the business practices and procedures of the institutions; the programmatic and academic portions of the university were beyond the scope of this study. Moreover, while this inquiry included a review of many general business practices and procedures affecting the academic and ancillary enterprises of the institutions, it did not include a detailed analysis of those aspects of the institutions' operations.

In short, the committee looked at how business is conducted at the institutions. Questions of why and what is conducted were outside the scope of this inquiry. This was consistent with the charge of the Governor's Task Force. However, the committee did add areas of study, e.g., Physical Plant and Risk Management, which were beyond the scope of the Governor's Task Force.

The committee quickly took action to organize itself and to develop a process needed to study the wide ranging nonacademic operations of the Regent institutions. In order to do so, the committee established six task forces. These task forces, listed below, are composed of private sector and institutional representatives.

Administrative Support Services
Robert Soldat, Chairman
Director of Purchasing
Firestone Tire Company
Des Moines

Cash Management
Tunis Den Hartog, Chairman
Executive Vice President
Home Savings
Waterloo

Communications & Computer Services & Technology
Lawrence Ferin, Chairman
Vice President
Charter Data Services, Inc.
Des Moines

Insurance and Risk Management
Carl Grant, Chairman
LaMair, Mulock & Condon
Des Moines

Personnel Management
Paul Scott, Chairman
Personnel Director
Procter & Gamble
Iowa City

Physical Plant
Otto Tennant, Chairman
Recently Retired Executive from
Iowa Power
Des Moines

It should be noted that the Regents Efficiency and Effectiveness effort made greater use of private sector representatives than did the Governor's Task Force. The committee found that the mix of institutional, Board Office, and private sector representatives on each task force provided for fresh ideas, lively discussions and a realistic analysis of cost-saving proposals. A list of the members of each task force is included in Appendix C.

The committee developed task statements which outlined the areas of study for each task force and each task force has met on a regular basis since August 1983. The task forces first gained a thorough understanding of each particular topic area. After that was accomplished, the task forces identified areas of specific inquiry which were presented to the Board of Regents in December 1983 with no suggestions for additional areas of study. The private sector, institutional, and Board Office representatives on each task force have worked hard to develop a thorough understanding of nonacademic operations of the Regent institutions. They have done stellar work in identifying areas of study in pursuing those studies, and in developing 70 useful recommendations to increase the efficiency and effectiveness of the Regent institutions.

The committee has reviewed the recommendations of each task force and has fashioned a set of recommendations to the board. The recommendations are outlined in detail in the pages that follow. However, the committee also reported several general findings:

General Assessment

-- The Committee was generally impressed with the concerned and dedicated management at the Regent institutions and appreciates the cooperation it has received from the institutions. The recommendations made by the committee are not intended to be critical of present Regent business operations but, in most cases, represent only the application of new technologies and

approaches to those operations. However, it should be noted that the committee has received comments from the institutions expressing concerns about some recommendations. The Committee noted the objections received but made its final decisions based upon its assessment of the costs and benefits of each proposal.

From Classroom to Administrative Office

-- The Regent universities, which provide important instructional and research assistance to the private sector on key business management and operation issues, should also be on the cutting edge of implementing new business/ management and operation techniques. The Committee found that the institutions are accomplishing this transfer of new ideas from the classroom to the administration of the universities in several areas, particularly data processing, information management, and personnel administration. However, further efforts should be made to transfer the universities' academic expertise to the management of the university. These efforts should be most pronounced in the management of the institutions' physical plants.

Cost Savings/Avoidance/Efficiencies

-- The committee's recommendations include a number of items for which no cost savings have been identified. Indeed, several of these recommendations reflect the second half of the committee's charge -- increasing the effectiveness of Regent operations. For example, recommendations are made in the personnel administration section which, while likely to save little money, could significantly improve employee job attitudes and thus performance. In addition, a number of the savings which have been identified are in the form of cost avoidance -- reducing higher future costs. Energy conservation and telecommunications recommendations are the most obvious examples of cost avoidance. And, it should be noted that some of the recommendations relate to increasing institutional revenue such as increasing the return on idle funds.

Budgetary Flexibility

-- The Regents are given substantial budgetary flexibility in the present state budget process. Lump sum funding is provided for institutional operations and the institutions are given the flexibility to use those funds where they are most needed. This flexibility allows for institutional priority-setting, minimizes the adverse impacts of budget reductions, and provides an incentive for the institution to reduce costs. This flexibility has served well the citizens of Iowa and should be maintained.

Iowa School for the Deaf/Iowa Braille & Sight Saving School

-- The Committee reviewed the 1979 Governor's Economy Committee recommendation to change the jurisdiction of Iowa School for the Deaf and Iowa Braille & Sight Saving School. The Committee is aware of the close working relationship the special schools have with the Regent universities, particularly in the areas of health care and education. The Committee is also aware that these working relationships are facilitated by the Board of Regents jurisdiction. Since this issue is periodically reviewed by the board as part of the budget process, the Committee did not take a position on this jurisdictional question. The Committee does encourage ISD and IBSSS to take advantage of committee recommendations which, in cooperation with other Regent institutions, will provide benefits and savings.

Implementation

-- The Committee encourages the board to implement these recommendations through its present governance arrangement with the institutions. The Committee sees no need for the creation of an additional administrative structure to implement these proposals. However, the Committee believes that the development of an implementation scorecard, with periodic progress reports, would be a useful implementation tool.

EXECUTIVE SUMMARY

The work of the Regent Committee on Efficiencies and Cost Effectiveness was organized as a cooperative effort of private sector experts and representatives of the Regent institutions and the Board Office. The committee established six task forces to study the following areas: physical plant, risk management, personnel management, administrative support services, cash management, and communications and computer services and technology. The committee worked with task forces chaired by representatives of the private sector to conduct studies of each of these areas. As a result of this effort, 70 recommendations have been made regarding measures which might be taken by the Regent institutions to accomplish potential cost savings, cost containment, improved efficiencies, and enhancements in the effectiveness of Regent business operations. These recommendations, if implemented, have the potential to save, avoid cost increases, or increase revenues of approximately $29.2 million cumulatively from fiscal year 1985 through fiscal year 1987.

It should be noted that the budget of the Regent institutions is comprised of state, federal and other sources of funds. These recommendations would affect program funding from each of these sources of funds.

The committee believes that the Regents present governance structure is capable of overseeing the implementation of these recommendations and encourages the development of a scorecard with periodic reviews to ensure the proper monitoring of implementation.

Digest of Recommendations

Physical Plant

Rec. #	Recommendation Made
1	Improve physical plant budget preparation.
2	Increase architect/engineer coordination and planning.
3	Expand and increase emphasis on short-term energy conservation efforts.
4	Consider moving the prime janitorial work shift to the daytime.
5	Continue toxic waste handling procedures.

Rec. #	Recommendation
6	Increase coordination among physical plant directors.
7	Increase communication between physical plant departments and the planning units.
8	Develop a Regent utility board for combined fuel purchases.
9	Jointly purchase coal with a review of the purchase of Western coal if cost effective.
10	Provide the Regents with the authority to purchase electrical power on a lower cost basis.
11	Investigate the direct purchase of natural gas.
12	Conduct pilot study on an occupant motivation system for space and energy usage.
13	Review the functions of the Physical Plant Department at the University of Iowa and develop a plan for coordinated housing.
14	Employ a systems analyst for the Physical Plant Department at the University of Iowa to coordinate information management.
15	Seek a contract between the University of Iowa and Iowa-Illinois utility to permit totalized demand charges.
16	Investigate the possibility of a central chiller on the East Campus at the University of Iowa.
17	Seek funding for the replacement of aging utility boilers at the University of Iowa and Iowa State University.
18	Develop a stronger inter-connection for electrical purchases between Iowa State University and the city of Ames.
19	Remove the Museum from the Physical Plant Service Building at the University of Northern Iowa.

Risk Management

Rec. #	Recommendation Made
20	Seek catastrophic insurance coverage for all Regent property.
21	Clarify statutory ambiguity on employee indemnification for tort claims.
22	Continue practice of clarifying tort claims coverage for students.
23	Take steps to inform university employees of extent of coverage of tort claims act.
24	Maintain current professional liability procedures.
25	Reconsider positions on libel coverage and review advisability of incorporation of student newspaper.
26	Review comprehensive coverage policy for money and securities and maintain escrow agreements.
27	Continue present radioactive and biological waste risk policies and procedures.
28	Investigate cost effectiveness of establishing separate Regent motor vehicle insurance policy and clarify risk management statutes.

Personnel Management

29	Establish sick leave monitoring system.
30	Continue flex-time scheduling arrangements.
31	Train supervisors to reduce need for supervisor's control.
32	Implement participative productivity improvement concept.
33	Maintain fringe benefit management system.
34	Adopt policy encouraging health awareness (wellness) programs.
35	Continue review of group insurance plans.
36	Examine implementation of flexible benefits plan.
37	Continue unemployment cost review system.

Personnel Management (cont.)

Rec. #	Recommendation Made
38	Participate in review of the handling of workers' compensation claims.
39	Implement phased retirement system for all Regent personnel.
40	Obtain source codes for state personnel management system.
41	Increase emphasis on formal training.
42	Continue present handling of holiday pay for temporary employees.
43	Modiy military leave policies, consistent with state law.
44	Continue study of task analysis system.

Administrative Support Services

45	Implement negative approval of voucher system.
46	Increase equipment recyling management.
47	Involve purchasing departments in preliminary equipment planning process.
48	Implement systems contracting.
49	Authorize direct access to computer purchasing terminals.
50	Investigate single vendor air travel planning at the University of Northern Iowa.
51	Undertake feasibility study of potential freight savings.
52	Review vending operations.
53	Conduct needs analysis of mail operations.
54	Establish forms control committee.

Cash Management

55	Establish standards for bank selection.
56	Reduce number of depositor banks.
57	Modify pledge agreements.

Cash Management (cont.)

Rec. #	Recommendation Made
58	Continue reverse repurchase agreements.
59	Review check cashing services.
60	Phase-in deferred tuition and fee payment service charge.
61	Broaden investment authority of the Board of Regents.

Communications, Computer Services, and Technology

62	Address data processing, alternative technology, and office automation needs.
63	Obtain additional technology support to meet future needs.
64	Implement centrally funded support for systems research and development.
65	Establish institution-wide guidelines for information management dissemination.
66	Secure data processing expertise among the institutions.
67	Review hiring, promotion, and pay policies for data processing personnel.
68	Develop a plan for electronic mail operations.
69	Continue pluralistic computer operations with review of greater sharing within the institutions.
70	Review and implement new telecommunications systems.

Cost Savings/Cost Avoidance/Revenue Increase Estimates

Fiscal Year 1985	Fiscal Year 1986	Fiscal Year 1987
$5,971,396	$9,956,060	$13,244,870

Total Three-Year Fiscal Year Accumulative Estimate - $29,172,326

It should be noted that these are cumulative estimates with the potential to achieve cost savings, avoid cost increases, or increase revenues as a result of these recommendations. These recommendations would impact all sources of funds--federal, state, and private. Over one-third of the dollar impact will require legislative action and, thus, their implementation would be dependent upon receiving the approval of the General Assembly and the Governor.

Chapter 1 -- Physical Plant

Task Force Chairperson: Otto A. Tennant, Past President, National Society of Professional Engineers and Director of Special Projects for Iowa Power, Des Moines

Committee Liaison: Harry Slife, President, Black Hawk Broadcasting Company, Waterloo

Task Assignment

This area of study included a look at increasing efficiency and effectiveness for all five Regent institutions in the following three areas: Repairs and Upkeep of facilities to include operational, maintenance, and custodial services; Capital Planning and Construction, including architectural, land, engineering services, construction management, planning and inspection, use of outside services; and Utility Services, including power plant operations and relations with public utilities.

Background Information

The Regents committee spent a great deal of time reviewing the efficiency of the physical plant services at each institution. The committee drew on the experience of private and public sector physical plant experts and developed recommendations with substantial projected savings.

Presently, the Regent institutions manage a building floor area of almost 24 million square feet, (Appendix A). The physical plant budget used to operate general university facilities is approximately $47 million or 13.4% of total university general education budget. It is estimated that 44.2% of the physical plant budgets are spent on personnel, 42% on fuel and purchased electricity and 13.8% on general expenses.

The committee found that almost all upper level physical plant employees have excellent work habits, are well qualified for their jobs, are interested in and dedicated to the institutions and bring a high degree of professionalism to their work. However, the committee did identify a number of ways to improve the effiency and effectiveness of physical plant operations.

Recommendations

1. Physical Plant Budget Preparation

Discussion: When the final budget allocations are given to the physical plant, the director, in conjunction with school administration, must be able to make reasonable judgments on items to add or defer. The recommended budget procedure would aid in that priority setting.

The procedure recommended is similar to that used by private business. While educational institutions do have different requirements than private businesses since their products are research and students, there are some worthwhile comparisons. Private business has to operate in the manner recommended in order to know its costs and to have the ability to shift rapidly with changing market conditions. This budget procedure would enable the schools to know what true conditions are and thus make proper judgments.

Recommendation: The committee recommends that each year the directors of the physical plants prepare an operating budget and capital request for needs during the succeeding year. This process should take place prior to allocation of funds. In addition, a rolling five-year budget should be prepared. During the process of budget preparation by each physical plant department head and staff, a review of the requirements to meet institutional needs would be made and the true cost of these functions determined.

Cost Savings: Indeterminate but there will be cost avoidance as well as proper maintenance of building and equipment with emergency maintenance reduced substantially.

2. Architect-Engineer Coordination

Discussion: Planning for remodeling modifications and energy management projects needs cooperation between physical plant staff, university architects and outside architects and engineers to achieve efficiency in construction and continuing maintenance of these facilities.

Even though physical plant planners and university architects may report to different administrators, close working relationships are necessary to minimize problems before construction. Closer coordination will be enhanced by implementing the following recommendation.

Discussion and review prior to construction can save many "false starts" and expensive "extras" both on in-house planned projects and those where outside consultants are used. It appears that this problem is most serious when outside consultants are used and the detailed design is not complete enough to avoid extras.

Recommendations:

a. Where feasible, house the physical plant planners and architects together, preferably in physical plant department administrative areas.

b. Add a requirement that the university planning, engineering, and maintenance departments approve final plans and specifications for a project (see Appendix B).

Cost Savings: It is estimated that 25 percent of the "extras" on construction projects could be saved with better planning and coordination. Based on the 1982-83 budget, this would be $693,000 annually.

3. Energy Conservation in Short Term

Discussion: The administration of the institutions should place emphasis on continuing and expanding energy conservation efforts. Industry has found that making energy conservation the primary responsibility of one person (or two) with support of all levels of management is an effective approach to conservation. Records indicate that significant savings have been made at the institutions in the last three to six years; however, the absolute levels of energy consumption still indicate that more can and should be done. It would be useful for the physical plant directors from each institution to meet regularly to review and compare reports on energy conservation efforts. To the extent possible, energy savings should be invested in further conservation measures with reasonable payback.

Recommendations:

The following three actions are suggested to aid in obtaining the energy conservation savings:

a. Appoint (where not already in existence) a person whose primary responsibility is energy conservation with sufficient authority and management support to get things done.

b. Arrange for exchange of information on energy conservation between physical plant directors.

c. Invest, to the extent possible, money saved by energy conservation projects in further conservation measures.

Cost Savings: Three percent of energy budget per year. In 1982-83, the purchased fuel and electricity budget was $18,288,613. Therefore, $549,000 of annual savings are possible. However, a portion of these should be reinvested in energy conservation projects.

4. Janitorial Work - Daytime Shift

Discussion: Industry and some state government units are finding daytime shifts for janitorial work acceptable. The advantages are better understanding between the custodial staff and tenants, better and closer supervision, better employees, (few like to work the midnight shift) and no need of premium pay. It is believed that the primary shift for janitorial work should be from 6:00 a.m. to 3:00 p.m., a second minimum shift from 3:00 p.m. to 11:00 p.m., and a midnight shift for only those buildings where it is mandatory.

Recommendation: Each university should study the extent to which daytime janitorial services could be implemented on the campuses on a building-by-building basis.

Cost Savings: To be determined at all three institutions.

5. Toxic Waste--No recommendation

The committee found that universities are handling toxic wastes in expert fashion. All EPA rules are being followed.

No recommendations are needed in this area.

6. Coordination of Physical Plant Directors

Discussion: It has been found that interinstitutional committees can increase coordination among the three larger institutions and share cost-saving ideas. The committee found that the interchange spurred by the efficiency and effectiveness effort brought to light good ideas now in place at one campus that can be tried at the others. The committee believes that such an interchange of ideas can save much more than the cost of the meetings. This procedure will also help the Regent staff to be current with activities at each institution.

This would also allow for a more uniform definition of budget items so that the institutional costs can be better compared.

Recommendation: The committee therefore believes that a committee should be formed of the physical plant directors of the University of Iowa, Iowa State University, and the University of Northern Iowa with a representative from the Board of Regents staff. It is recommended that set dates be established for each month for the committee to meet and the meeting location be rotated among the three institutions. The host director would prepare the agenda with consultation with others on the committee. The committee recommends the person having equivalent responsibility at the Iowa School for the Deaf and Iowa Braille and Sight Saving School attend every fourth meeting (three times per year). The three directors along with members of the Board of Regents staff will determine the scope of subjects to be discussed each month.

In addition, the committee recommends that the directors not only belong to their association (The Association of Physical Plant Administators) but that they be encouraged to attend the Association's annual and midwest meetings.

Cost Savings: Indeterminate. However, even one cost saving idea obtained from another institution can be significant.

7. Planning/Communication

Discussion: There was a review of the communication between the Physical Plant Departments and planning functions of all types. The degree of communication varies with the institutions. At the University of Northern Iowa the planning and physical plant function is one. At Iowa State University the physical plant is either represented on all committees affecting physical plant planning and operations or provides staff support for those committees. At the University of Iowa the physical plant is involved in varying degree in the planning decision process. The University of Northern Iowa has an Assistant Director of Physical Plant on the campus planning committee of the institution.

Recommendation: The committee sees a need for better communication between physical plants and the planning units. Possibly a physical plant person being made an ex-officio member of the planning committees is one solution; alternately a determined effort by the various committees to advise physical plants of their planning and needs for a project could also be a solution.

We suggest better communication so the various planning committees will know the dollar costs required to support planning decisions.

Cost Savings: Undetermined, but greater efficiencies would result.

8. Regents Utility Board/Combined Fuel Purchases

Each of the Regent institutions is a substantial user of fuel and purchased electricity. The institutions both produce their own steam and electricity and purchase coal, electricity, natural gas, and other fuels. The budget for fuel and purchased electricity is over $21 million annually and represents over 40 percent of the physical plant budget. There are substantial possibilities for major savings, particularly if the Regents pool their purchases to obtain price advantages.

Recommendation: The Board of Regents should consider appointing a board of trustees for the three Regent universities for the procurement of energy (coal, gas, oil and electricity). Since the institutions already operate as utilities and have power plants larger than those of many municipalities, there is logic in considering this approach.

The board of trustees should have similar negotiating rights as a municipal utility in the State of Iowa. In order to purchase energy economically it must be done on a long-term basis. The Board of Regents should combine the three large schools' energy purchasing requirements to achieve economies of scale.

State law should be reviewed to make certain that the statutes will allow the Regents to negotiate with vendors for these utility purchases. It is proposed that the board of trustees be composed of representatives from the institutions and the Board and/or Board Office. One person should be appointed as the lead person or director. To negotiate properly the board needs someone with decision making ability as a lead person. Of course, this responsibility could be contracted out with careful guidelines.

The committee proposes that the operation of the power plants and distribution system be operated by the various physical plant departments. The Regents should continue to explore the possibility of bonding for capital improvement for the power plants and distribution systems with billings to cover repayment of the bonds.

9. Coal Purchases

Discussion: The Regent universities burn 300,000 to 340,000 tons of coal each year. This coal, the bulk of which has a relatively high sulfur content, is used for the production of steam and electricity for the universities. It is likely that the federal government will impose stricter sulfur dioxide emission requirements on the universities' power plants in the future. Therefore, the universities should plan to meet those stricter requirements. Moreover, it is expected that increased rail freight competition will significantly reduce the cost of low sulfur western coal in Iowa.

Recommendation: It is recommended that the institutions investigate the purchase of Powder River Basin coal in Wyoming since it appears it could be obtained at a lower cost per BTU than West Virginia or East Kentucky low sulfur coal at this time. The committee is aware of the development of a method of getting 32 percent moisture out of western coal and the resulting briquets have a BTU content of 10,880 BTU per pound with four to five percent moisture. It is recommended that all schools test burn this dehydrated coal when it is available. In the negotiation process for

western coal it will be necessary to have a lead person who is knowledgeable in this area. It may be necessary to add as much as 200,000 tons per year from another consumer to the total purchased amount to make this an economically attractive package for the mining company and railways.

Cost Savings: The University of Iowa, in addition to determining whether the dehydrated coal can be burned, will need capital expenditures for coal handling when the coal is delivered by rail. This will be at an estimated cost of $300,000. It is estimated that the coal can be delivered to Ames at a savings of 30 to 40 cents per million BTU below present day average price. Using dehydrated coal with a BTU of 10,880, the three institutions could show a savings of $2 to $2.5 million per year. Thus a net savings of $2 million annually is possible. In addition, by using low sulfur coal, it is not necessary to add capital investment for fluidized bed boilers or scrubbers to boilers.

10. Electricity Purchases

Discussion: Each Regent university produces electricity for its own needs. However, purchases of electricity are also made, particularly at the University of Northern Iowa and the University of Iowa. These purchased electricity costs have increased by over 150% over the past five years and further cost increases may be forthcoming.

Recommendation: Each Regent university now has a different arrangement for the generation and purchase of electricity from utilities. The utility trustees recommended earlier should work with each institution and utility to resolve any problems concerning electricity purchases and the use of topping turbines to generate electricity. The Board of Regent universities should be released from the utility franchise territory requirement in order to negotiate with all utilities in their area for purchased electricity, particularly for the purchase of economy power. When extra electric capacity is needed, the trustees should add the requirements of

all three institutions and investigate the possibility of buying a portion of another utility's larger generating unit with delivery of electric power to each institution.

Cost Savings: The universities now generate much electricity that could otherwise be purchased from the grid at a lower per unit cost. The intent here is to purchase this electricity rather than generate it. In order to do so, some capital investment for electrical transmission lines would be needed, particularly at Iowa State University. It is expected that such costs could be amortized in the utility budgets of the institutions. However, using 1982-83 purchased electricity of the three institutions at a total kwhs of 162,642,000 as the base, savings could be as follows:

Year	Assumption for Savings	(1983 fund and dollars)
1984-85	10% of 50% @ 1.5 cents/kwh	$ 121,880
1985-86	50% @ 1.5 cents/kwh	1,218,810
1986-87	75% @ 1.5 cents/kwh	2,829,720
1987-88	100% @ 1.5 cents/kwh	2,439,630
1988-89	@ 2.0 cents/kwh	3,252,840
1989-90	@ 2.0 cents/kwh	3,252,840
1990-91	@ 2.5 cents/kwh	4,066,050
1991-92	@ 2.5 cents/kwh	4,066,050

11. Natural Gas Purchases

Discussion: Recent changes in federal regulations make it easier for colleges and universities to cut their fuel bills by buying natural gas directly from the owners of wells.

Generally, the institutions buy natural gas about the same way that an individual homeowner does--third hand: from a local utility company that buys it from a pipeline company that buys it from a producer.

The Federal Energy Regulatory Commission last August adopted regulations (under Order 319) intended to encourage colleges, universities, hospitals, and other high-priority users of natural gas to buy it directly from producers.

In many cases, an institution can get a substantially lower price by negotiating directly with a producer, than by paying an interstate pipeline company and a local utility company to transport it, and still pay less than a local utility would charge.

The Order 319 program allows a pipeline company to transport natural gas for qualified users under a "blanket certification" without further authorization from the regulatory commission.

It should be noted that in some cases a distributor or pipeline, as a matter of policy, may simply refuse to transport gas supplies for an institution. Such refusal can raise issues under antitrust laws and regulatory principles.

In Illinois, the state attorney general has sued Panhandle Eastern Pipeline Company of Houston, charging that the company violated antitrust laws by refusing to transport natural gas purchased directly from producers by Sangamon State University, Lincoln Land Community College, and other state agencies.

Recommendation: The committee recommends that utility trustees investigate the possibility of direct natural gas purchases for the Regent institutions. The legal questions surrounding such purchases should be worked out with the Attorney General's office.

Cost Savings: It has been estimated that savings of 20 to 45 percent on natural gas purchases can be achieved through direct purchase. Savings of 20 percent would reduce energy costs for the Regent institutions by $600,000 annually.

12. Occupant Motivation

Discussion: The committee believes the universities' business schools are correct when they instruct students in industry to use profit centers in any multi-discipline activity in order to acknowledge true costs and to properly motivate the administrators to cut costs. The profit center concept may be applicable to universities as well. At present, academic department heads have little responsibility for space needs or its costs. However, academic leaders should have greater responsibility for all costs including space costs. The committee suggests the physical plant receive no allocation of funds but instead receive all of its income from utilities, space rent, maintenance, housekeeping requirements, and necessary remodeling from each department. The physical plant would obtain monies for common areas such as hallways, restrooms, and possibly multiple use classrooms from the general university funds. This method of budgeting could provide academic leaders with greater incentives to contain physical plant costs.

The committee acknowledges that such a proposal would need in depth study if it is to be successful. However, it is envisioned that each department initially would receive space requirements, etc., based on university standards that the space allocation administrators presently use. The total budget of the physical plant would then be allocated based proportionately between the common areas for the university and other areas based on square footage plus those items that require extra utility costs.

The same concept could be utilized for utility costs. When a department has a complete building, the department would pay all utility costs; but in a multiple use building the utility costs would be prorated based on the square footage assigned. If an area had an extraordinary usage of utilities in a multiple usage building, those utilities involved would be separately metered. After meeting certain minimum standards established by the university, any savings of utilities would be for the discretionary use of the department.

Housekeeping would operate in a similar manner. A department could decide that some areas might need cleaning twice a day while others only once a week. If cleaning meets minimum standards, the department again would have discretionary use of the savings.

This concept could help determine the total funds needed to educate a student in each department. It could also result in the development of accurate figures of the overhead for research done at a university. It is acknowledged that some of the institutions are skeptical about the merits of this recommendation. Some are convinced that there are no unused or marginal space at any university; that there are really no true standards for space allocation; and that implementation would be an administrative nightmare. It is also argued that this profit center approach will never work since these changes could work only in the corporate world and not in an academic environment.

Recommendation: The committee realizes there may be many administrative difficulties and recommends a long-term study committee be appointed by the Board of Regents to analyze the possible advantages and disadvantages of this approach. The committee recommends that five or six buildings with two or three departments be selected at each school for study. It is further recommended that a graduate student from business or industrial engineering be assigned to the project to determine the feasibility of this type of motivation.

Cost Saving: The commitee believes that there may be significant savings and increased efficiency for the university from this approach. These savings cannot be determined until a study is completed.

Recommendations Specific to Each University

University of Iowa

13. Discussion: During a visit to the various campuses, it was determined that the Director of the Physical Plant, Assistant Director of Utilities, Associate Director for Building Maintenance and Operations, Business Manager and the Manager of Campus and Custodial Services, and their supporting staffs are housed in a structure that was formerly a neighborhood grocery store on the lower level and three apartments on the second floor. The structure was built in the early 1900's and was not designed for the type of functions it currently houses. The structure is not energy efficient, nor is it possible to use the available square feet efficiently to serve the functions contained within the building.

The Architectural and Engineering Services, which is a part of the physical plant organization, is located in a building some six blocks from the Administration Building. This physical separation precludes the routine informal daily interchange of questions and information that should take place between the utilities distribution and production group, maintenance and operation group, energy conservation group, and the engineering services group. Such exchanges are of great value and permit the expeditious solution of many problems relating to one or more of the groups. More specifically, routine questions concerning electrical, steam and water distribution, structural problems relating to renovation, etc. could be answered in a very informal conversation, rather than the more structured way which is now required.

The energy conservation group is located in a residence that has been converted for its use. Here again, this structure is located some five blocks away from the main administration building, and is by no means space efficient or energy efficient for the use of this group. In addition, much of the work accomplished by the energy group relates directly to maintenance, steam and electrical distribution, and engineering functions. Location in the same building would provide daily informal interchange between the manager of the energy conservation group and maintenance, engineering, and utilities functions.

The landscape architect, who is responsible to the manager of Campus and Custodial Services, is located in the same structure as the Architectural and Engineering Services. Here again, this precludes daily informal contacts between the appropriate individuals. The present arrangement is necessary simply because there is no space in the main administration building to house this individual.

Another very unlikely combination is the fact that the Staff Development Group and the Do It Now Shop are housed in an old converted residence adjacent to the Physical Plant administration bulding. The same deficiencies prevail as with the energy group, in that the building is very inefficient so far as space and energy utilization is concerned.

The Physical Plant stores operation is located in an area that makes it possible adequately to service the shops; however, the space is extremely limited, and does not permit taking advantage of lower prices resulting from quantity buying.

With the exception of the Miscellaneous Services Shop and a portion of the Electrical Distribution Shop, the shop areas are contiguous to the Physical Plant administration building; however, they are limited in the space available and in some instances cannot efficiently perform their functions, particularly functions which require bench space.

The key shop is housed in a residence that is neither space nor energy efficient. Much of the Electrical Distribution function is housed some eight blocks from the mail shop area and is housed in rented space. The Campus Mail Service is located in a structure some eight blocks from the administration building. The headquarters of the Campus Grounds Crew is housed in a structure which is inadequate; and various items of equipment, such as gang mowers and snow removal equipment (some of which is hydraulically operated and requires indoor housing), is scattered in various buildings within a three block area, some rented, and some

provided by the university. The Motor Pool and Motor Maintenance operations are reasonably well accommodated with the exception of housing for diesel buses.

It is recognized by the committee that housing of all of the functions outlined above in the same structure is not absolutely essential. At the same time, it must be recognized and emphasized that the physical plant operation cannot function as efficiently and effectively as possible so long as its various units are so widely dispersed.

There are two studies under way at the university which will relate to this problem. The first of these is the study of the land use south of Burlington Street with the objective of determining what priorities should be established for the future use of that land. The second study concerns that of University-wide Stores Operations, which would include not only Physical Plant Stores but General Stores and Hospital Stores.

Recommendation: It is the recommendation of the committee that a consultant be retained to do a detailed analysis of the various functions of the Physical Plant Department, how they relate to each other, how they should be housed and to develop a schematic plan for such housing.

Cost Savings: Such a plan must be developed within the university's budget; however, increases in efficiency and some cost savings would result.

14. Information Management

Discussion and Recommendation: A "Systems Analyst" is needed at the University of Iowa to develop and implement a coordinated system of information management for the university's Physical Plant, including data and word processing, energy management and communications. At present, solutions to individual problems are sought on a case-by-case basis, with insufficient attention to have an effect on the overall system. This

causes duplication of effort, excessive equipment purchases and lack of follow-up and maintenance of installed systems. The issue of central processing versus distributed networks must be addressed. As central systems become outdated, lack of Physical Plant priority for programming time causes lost opportunities for savings and decreased efficiency. Data base management and access must be improved to provide managers the information they need in a usable form on a timely basis. Present energy control systems depend heavily on one person (whose primary responsibilities are in other areas) for system management. Absence of this person could cause disruptions when problems occur.

Cost Savings: One to two percent of budget ($200,000-$400,000 annually).

15. Purchased Electricity

Recommendation: Representatives of the University of Iowa should seek a contract with Iowa-Illinois Gas and Electric Company that will permit totalizing the demand charges at the two electrical substations. It is understood that progress is being made in that effort.

Cost Savings: $400,000 per year.

16. East Campus Chillers

There is not a central chiller plant on the east campus of the University of Iowa. Buildings are air conditioned with a central building unit or with a number of various types of package units. There are also many (approximately 1,000) energy inefficient window air conditioners scattered throughout the east side campus buildings.

Some of the central building units and package units are approaching the end of their service lives and need to be replaced. Larger centralized chiller systems should be built so as to be able to serve clusters of buildings and to replace old and obsolete central building units, package units, and the window units being used in the building cluster.

Cost Savings: The costs of constructing such a plant must be estimated to determine actual payback. Many other variables are involved in estimating these payments. However, it is estimated that up to one-third of the air conditioning costs of buildings affected could be saved through the installation of such a central plant.

17. Boilers

Recommendation: The power plant boilers on the SUI campus are beyond their useful lives and are increasingly unreliable. The campus could well face periods without power unless this power generating capacity is replaced. Efforts should be made to secure funding for such replacement or develop alternative purchasing arrangements from the private sector. A similar problem exists at ISU.

Cost Savings: Large up-front construction costs, but long-term efficiency and reliability would be achieved.

Iowa State University

18. Energy-Utility Purchases

Recommendation: A stronger inter-tie with the City of Ames is required for economical energy interchange. The present tie is inadequate. Iowa State University and the municipal utility should develop a high voltage transmission tie with one of the utilities adjacent to the university and Ames area. The two should negotiate with one of the public utilities to dispatch generation as well as to receive economy power.

Cost Savings: On "off peak" times a minimum of 0.75 cents per kw. Minimum 10,000 for 8,670 kwh or $650,250 per year. Some of these savings would be achieved in Recommendation 10, if it is implemented, and would reduce the net long-term savings indicated in that recommendation.

University of Northern Iowa

19. Plant Services: The museum should be removed from the Plant Service Building and that space should be used by Plant Services in order to allow a consolidation of operations with increased storage space, resulting in more efficient operations and purchasing.

Cost savings:

Bulk purchase savings (emergency shopping permits)	$32,000
Shop requisitions (bulk and delivery savings)	25,000
Savings per year	$57,000

There would also be an undetermined savings due to better inventory control. However, it is estimated that such a move would require an undetermined amount of up-front moving and relocation costs.

Chapter 2 -- Risk Management

Task Force Chairperson: Carl Grant, Chairman, LaMair, Mulock & Condon, Des Moines

Committee Liaison: Neil E. Harl, Distinguished Professor in Agriculture & Professor of Economics, Iowa State University

Task Assignment

This area of study included a look at the efficiency and effectiveness of insurance of all forms, including auto and risk management, at the five Regent institutions.

Background Information

At the outset, the committee recognized that at the universities, because of the extraordinary variety of functions performed in the course of teaching, research and service, there are risks of a greater magnitude than in almost any other public entity. Indeed, because each institution operates an extensive housing system, has dozens of acres of land and buildings open (in general) to the public, engages in highly sophisticated research involving the use of toxic and reactive agents, and publishes thousands of pages of material each year, the exposure to liability is large. Moreover, one of the institutions operates extensive agricultural and farming programs with all the attendant risks so familiar to Iowans. Another institution operates the largest university-owned teaching hospital in America. All of these factors combine to make risk exposure a concern.

With these thoughts in mind as to the scope of the risks involved in the Regent institutions, the committee explored many areas, gathering information from each institution and sharing facts and figures within the group. It is noteworthy

that each university has a professional staff member who serves as the university risk manager. Efforts were made to narrow the field of possibilities and certain areas were highlighted for continued study. For each area of risk that was studied, a recommendation is made either to continue the current course or to change the policy for a stated reason.

20. Property Risk Management -- Catastrophic Losses

Discussion: The committee is concerned over the ability of the State of Iowa to fund catastrophic uninsured losses in the area of Property, Liability, Workers' Compensation and losses that may exceed current limits of liability under insured programs, such as Aircraft Liability.

Based on values contained in the January 1981 Department of General Services Risk Management Division findings and recommendations, the total replacement cost value of all state owned buildings and contents is $3,002,949,000. Of this total, the Board of Regents had replacement cost values of approximately $2,187,000,000 excluding vehicles and farm properties. Therefore, the Board of Regents property values represent approximately two-thirds of the total state property values. Currently, based on updated values, approximately $676,000,000 of values are insured by the Board of Regents, representing essentially non-academic buildings, such as dormitories, the Iowa State Center Complex, University of Iowa Hospitals and the Unidome at the University of Northern Iowa, all of which are required to be insured under current bonding requirements. There are no insured properties at the School for the Deaf or Iowa Braille and Sight Saving School. This leaves approximately $1,673,337,000 of uninsured Regent property, including major facilities such as the libraries, computer facilities and all physical plant and academic buildings. While it is difficult to determine past loss experience, it is not difficult to imagine a catastrophic loss at some point in the future, particularly after consideration of library buildings and contents values ranging up to

$120,000,000 at the University of Iowa, a power plant at Iowa State University with a value of $75,000,000 and a library at the University of Northern Iowa valued at $50,000,000. In addition, there are numerous properties at risk in the $10,000,000 to $25,000,000 area. The following is an exhibit demonstrating the current cost of insurance for insured buildings and an option to secure catastrophic coverage on both insured and uninsured buildings, with a $1,000,000 per occurrence deductible. As noted, it is possible to insure all properties on the $1,000,000 deductible basis for less money than is currently being spent insuring limited values, with a $1,000 to $5,000 deductible. It is estimated that insurance coverage for all Regent property, including that under bond covenants, at a $1 million deductible could actually reduce annual insurance costs by $32,000.

	Insured	Uninsured	Combined
University of Iowa	$ 394,000,000	$ 648,000,000	$ 1,042,000,000
Iowa State University	212,000,000	800,800,000	1,012,800,000
University of Northern Iowa	70,000,000	174,000,000	244,000,000
Iowa School for the Deaf	Nil	34,681,000	34,681,000
Iowa Braille and Sight Saving School	Nil	15,856,000	15,856,000
Total Values	$ 676,000,000	$1,673,337,000	$ 2,349,337,000
Current Insurance Cost	$232,116		
Estimated Insurance Costs			
$1,000,000 Ded. per occ.	$64,220	$158,967	$221,319
5,000,000 Ded. per occ.	50,700	125,500	176,200

Notes:

1. Values based on $100 sq. ft. replacement cost construction cost and estimated building areas at 1, 2, 3, 5, Institution 4 based on submitted values. Values need review and confirmation.

2. Estimated insurance costs are subject to submission and quotation.

Recommendation: The committee recommends continuing the practice of insuring those properties presently covered and that serious consideration be given to purchasing coverage on a $1,000,000 deductible basis on uninsured property of the Board of Regents. The proposed coverage would result in additional premiums estimated at $159,000.

An alternative would be to continue present coverage and to purchase coverage on a $5,000,000 deductible basis on uninsured property, which would result in additional premiums estimated at $125,000.

A review of a $1 million deductible policy for all Regent property which could reduce present insurance costs should also be made.

Losses within the deductible level would be subject to review and replacement under provisions of the Code of Iowa, Section 29C.20, "Contingent Fund-Governmental Subdivision Disaster Aid."

Cost Savings: Substantial avoidance of risks and attendant losses which could effectively bankrupt the state treasury if facilities were replaced.

21. Tort Liability

Discussion: It appears that the list of sovereign immunity exceptions in Section 25A.14 of the Iowa Code is intended to preserve the state's immunity from suit on account of both the "good faith" acts of its officers, and the "bad faith" acts of its officers. Thus, the state itself is immune from suit for any claim arising out of, for example, false imprisonment by a state employee. The act of false imprisonment by a state employee is presumptively a wrongful and intentional act, inconsistent with state employment, for which the state should not bear responsibility. Alternatively, the enforcement by a state official of a statute or regulation later found to have been invalid is a "good faith" act for which the state should not bear liability.

By and large, the exceptions listed in Section 25A.14 make sense in public policy terms. The state consents to be sued for acts of negligence, but not for intentional wrongdoing or, in the same cases, for good faith administrative acts, whether negligent or not.

An anomaly arises on account of the state's statutory duty to indemnify employees under the provision of Section 25A.21. The state, by virtue of Section 25A.21, is obligated both to defend and to indemnify an employee except in cases of malfeasance in office or willful and wanton conduct. For example, miscalculation of the amount of sales tax due would most certainly not be considered to be either malfeasance in office or willful and wanton conduct. Thus, in the event that an employee were found to have been negligent of such miscalculation, the state, although immune from suit, would be liable for the damages by virtue of the indemnification provision. If it is good public policy to insulate the state treasury from certain causes of action, the treasury ought to be insulated not only on account of causes of action brought against the state itself but on account of causes of action brought against state employees where the duty to indemnify exists. The statute might be amended to accomplish this end.

The effect of such an amendment could insulate the treasury from claims against employees for those causes of action for which the state is not itself liable. An employee could still be subject, personally, to suit for willful and wanton acts or for acts of malfeasance in office. The duty to indemnify does not, and should not exist in those cases. Any statutory change, however, must assure that employees remain protected, in their personal capacity, from damage claims arising from good faith acts or negligence.

Recommendation: Refer an apparent ambiguity in statutory coverage to the Attorney General's Office for review and recommendation on the possible need for statutory amendment.

Cost Savings: Absent a review of each law suit brought against employees of the state to ascertain whether or not the subject matter of the suit relates to acts as to which the state has not waived sovereign immunity, it is impossible to place a dollar figure on a potential saving. We may assume, however, that a substantial savings both in litigation costs to the state during defense of employees, and indemnification costs, if damages were awarded, could be achieved by appropriate statutory amendment.

Status of Volunteers and Students

22.

Discussion: Volunteers. For those members of the university community whose relationship is not that of an employer/employee one, the issue of whether the person is an employee of the state for the purposes of Chapter 25A turns on the question of whether the person is "acting on behalf of the state or any state agency in any official capacity, temporarily or permanently in the service of the state of Iowa, whether with or without compensation." Volunteers, for example, such as those who volunteer their services at the University of Iowa Hospitals and Clinics, are considered to be employees of the state for purposes of Chapter 25A. This is because the volunteers are "acting on behalf of the state or any state agency in an official capacity." The fact that the volunteer program is a structured one, supervised by University Hospital officials and providing services which are a service to the university are factors to be considered in determining that the volunteers are employees, for this purpose.

Residents and Fellows. The question of whether students are employees of the state in any given instance is a difficult one to decide in the abstract. The Attorney General's office opined on June 23, 1977, that resident and fellow physicians and dentists at the University of Iowa and interns and residents at Iowa State University College of Veterinary Medicine are employees of the state for purposes of Chapter 25A. Because the residents and fellows, although pursuing a course of study, are compensated for their work, report to supervisors and are licensed to act as physicians and dentists, they are employees within the meaning of the Tort Claims Act. To the extent that tortious conduct of students occurs while they are performing their work assignments, the state will defend and indemnify.

The Practicum Student. The status of a second category of student, the practicum student, e.g., the student teacher, has also been reviewed by the committee. The issue is whether an employment relationship exists between the university and the student or between the contracting agency and the student. The basic guideline that our research has uncovered is to look at the "totality of the circumstances" of the practicum arrangement including any actual contractual relationships created by specific written agreements. One specific practicum student, the student teacher, is addressed in Section 260.27 of the Iowa Code. The Code states that students engaged in such training under contract "shall be entitled to the same protection under the provisions of Section 613A.8, as is afforded by said section to officers and employees of the school district, during the time they are so assigned." This statutory provision (613A.8) is in essence a "Tort Claims Act" for municipal employees. It is interesting to note that there is here created by statute, a definite employee status for student teachers; but, it is equally important to note that while an employment relationship is apparently so created, that employment relationship is with the school

system and the municipality rather than with the university or the State Board of Regents.

Many students in the course of pursuing their educations cannot be thought to be acting on behalf of the state or as municipal employees or employees of any other agency. To the extent that students are not acting on behalf of the state, they will not be covered by Chapter 25A.

As the June, 1977, Attorney General's opinion indicates, it has been the practice of the Board of Regents and Regent institutions to seek the guidance of the Attorney General's office when issues have arisen regarding the coverage of the Tort Claims Act as to a category of individuals. The committee recommends that the practice of consulting the Attorney General in cases of doubt continue.

Recommendation: The board continue its practice of seeking clarification of the coverage of Chapter 25A as to groups of students on an as-needed basis.

Cost Savings: Undetermined.

23. Extramural Activity

Discussion: State employees are protected, generally, under the State Tort Claims Act when "acting within the scope of [their] office or employment".

"Acting within the scope of his office or employment" is defined in Chapter 25A as "acting in the line of duty as an employee of the state." The line of duty of a university employee will, of course, vary; however, extramural activities of university employees are not generally thought of as being within the line of duty. University

employees are, therefore, ordinarily held responsible for liability coverage for their extramural activities. For example, an attorney who was a member of the faculty of the College of Law, with a less than full-time appointment, who also engaged in the private practice of law, should realize that any insurance protection would come from private malpractice insurance.

University employees whose extramural activities involve services rendered to other state agencies would, of course, be covered under the State Tort Claims Act by virtue of their relationship with the other state agency. It has been the universities' experience that university faculty and staff understand the nature of extramural activity, and further understand that the Tort Claims Act does not extend to cover many extramural activities.

Recommendation: The universities should take affirmative steps to inform university employees on a continuing basis of the extent of the coverage of the Tort Claims Act and the relationship between tort claims coverage and extramural activities.

24. Professional Liability

Discussion: Pursuant to the provisions of Chapter 25A (the State Tort Claims Act), all health practitioners working at the five Regent institutions are covered by the provisions of the Act, and will be defended and indemnified against allegations of medical malpractice. Both the Attorney General's office and the Regent institutions are of the view that the State Tort Claims Act is functioning adequately to permit investigation, defense and indemnification of claims which are brought. Because of extensive risk management procedures in effect at University Hospitals and Clinics, the major health facilities involved, and the increasing sophistication of medical procedures, the incidence of malpractice allegations is relatively low.

In addition, at the University of Iowa, pursuant to the provisions of the By-Laws of the Medical Service Plan (adopted in 1946 and acknowledged in statute in Section 255.19), and the Dental Service Plan (adopted in 1966), professional liability insurance is carried on the faculty of the Colleges of Medicine and Dentistry who engage in professional practice pursuant to the provisions of those plans. Premium costs are covered totally through the private practice earnings of the physicians and dentists. Where litigation involves both members of the medical or dental faculty and other health professionals (e.g., nurses and residents), the insurer works cooperatively with the Attorney General's office in apportioning the costs of litigation and, if necessary, indemnification. The state is included as an "insured party" under the provisions of the professional liability policy, and through the years, it has been the university's judgment that because of the unique nature of the medical and dental service plans, such coverage has been obtained at a reasonable cost and serves to complement the provisions of the Tort Claims Act effectively.

Recommendation: No change in present procedures.

25. Media Coverage

Discussion: Student Newspapers. At two of the three universities, the student newspaper is controlled by a separate non-profit corporation whose membership consists of faculty, students and staff elected in campus-wide elections. The separate corporation at the University of Iowa was established after Supreme Court decisions, including Papish v. Board of Curators of the University of Missouri, 410 U.S. 667 (1973). In Papish, the court effectively held that the university does not have the power to censor student newspapers, absent a clear instance of obscenity. Thus, each of the newspaper corporations at the universities maintains liability insurance which covers both the

newspaper staff and the publication staff. In addition, at the University of Iowa, private counsel has been retained by the student publications board to advise on an ongoing basis as to the potential liability arising from publications. In the ten plus years that this system has been operating, only two significant libel actions have been brought. The newspaper won one case and in the other, the damages awarded were paid by the insurance company. At UNI, a separate corporation is not in existence, but a media special perils policy is carried in the name of the university for the student newspaper.

Broadcast Media. Coverage for libel under media special perils policies is carried for the TV station at Iowa State University and for both FM stations at the University of Northern Iowa. The position of the University of Iowa and Iowa State regarding their radio stations is that coverage is unnecessary, since they carry noncontroversial programming.

Recommendation: Iowa State University and the University of Iowa should reconsider their positions on libel coverage for broadcast media; and, the University of Northern Iowa should review the advisability of incorporation for its student newspaper.

Money and Securities

26.

Discussion: Dishonesty, Disappearance and Destruction Insurance. Each of the three universities maintains insurance coverage relative to potential loss of funds. Each carries a comprehensive dishonesty, disappearance and destruction policy. The University of Iowa carries a blanket bond coverage policy of $500,000 per employee. The blanket bond coverage for Iowa State University and the University of Northern Iowa is $25,000 and $20,000, respectively, per employee with the additional position bond coverage for selected employees. The University of Iowa decided to increase its protection against

potentially substantial losses through fictitious vendors and other dishonest schemes from $50,000 to $500,000 in 1980. At that time, the premium was increased from approximately $2500 to $3400 or $900. The advantage was that the insurer, once provided with such information as the number and type of employees, routines for handling money, and safes and their locations, makes a professional judgment of what is at risk.

It is the committee's view that the institutions have taken care to assess their risk and carry policies which, to the best of their knowledge, meet their needs. However, due to the substantial variation in the coverage and the cost of certain areas, it seems a useful exercise to meet and share information with each other with the goal being cost effective coverage for each institution in each area and, if appropriate, standardization for these three Regent institutions.

Institutional Bank Deposits. Regent institution bank deposits are secured through escrow agreements. An agreement is maintained with each depositor bank. Copies of the agreements are on file at the office of the Board of Regents in Des Moines. These escrow agreements pledge as security United States government bonds or securities, bonds of the state of Iowa or any subdivision of the state. Securities pledged are maintained in a separate bank and are evidenced by a safekeeping receipt from the bank where the securities are kept. Attached to the safekeeping receipt is an assignment executed in favor of the Regent institution.

Other Investments. The investment portfolios of the universities consist primarily, with few exceptions, of non-negotiable instruments registered in the name of the university and kept in a safety deposit box. Detailed records are maintained for all securities and any loss would be limited to the minimal cost of reissuing the security certificates. Certificates for investments in government securities are held by the investment banks. The universities receive safekeeping

receipts for those certificates and through this process eliminate any risk of loss.

Recommendation: 1) The Regents should establish a committee to review comprehensive dishonesty, disappearance and destruction coverage and trade information in an effort to revise policy limits if necessary and standardize policies wherever appropriate.

2) The Regent institutions should continue current escrow agreements, providing security under these agreements is sufficient to cover deposit risk.

27. Radioactive and Biological Waste

Discussion: Three Regent institutions all carry on research and other activities that involve both hazardous and radiological waste and products. Due to the nature of these activities, they are subject to extensive and exhaustive federal regulation. Detailed policies have been developed at each institution to assure the safe handling and disposal of these products. At both Iowa and Iowa State, separate professional offices governing environmental health and safety and radiation protection engage in a continuing monitoring and supervisory process to insure, within the limits of reason, that research, teaching and health care activities involving these products are executed in a way that insures human and environmental safety.

Recommendation: No change.

28. Liability Insurance and Risk Management Authority

Discussion: Statutory Uncertainties. There remains uncertainty as to the legal basis for a statewide automobile insurance policy. The Code points to policies rather than a policy. The Code states that the

State Board of Regents shall share in the management of property loss exposures and liability risk exposures involving institutions under the jurisdiction of the board; yet, does not explain in what way or to what extent. Regents are given statutory exemption from purchasing under Chapter 18 of the Code; yet, the new division on risk management makes the Department of General Services the exclusive contracting agency for the purchase of insurance.

A final area of uncertainty in Chapter 18 is that which appears to indicate that funding for the purchase of insurance shall be provided by a specific and separate appropriation provided solely for this purpose. No such appropriation has been made.

Further, Chapter 517A of the Code adds to the uncertainty by stating that "all state commissions, departments, boards and agencies...of the state of Iowa not otherwise authorized are hereby authorized and empowered to purchase and pay the premiums on liability, personal injury, and property damage insurance covering all officers, proprietary functions, and employees of such public bodies...".

This uncertainty strongly suggests the appropriateness of clarifying the risk management section of Chapter 18 of the Code.

This need for clarification of insurance purchasing authority is specifically demonstrated by automobile liability insurance for state vehicles.

All five Regent institutions maintain fleets of automotive and related vehicles that need insurance. At present, the Regent vehicle fleet approximates 1,000. This contrasts with a Department of General Services insured fleet of approximately 2,200 and a Department of Transportation fleet reported most recently at 2,600 vehicles (3,400 if all vehicles used are included).

Prior to July 1980, the Regents purchased automobile insurance under the authority of 517A (Liability Insurance for Public Employees) of the Code of Iowa, separate purchasing authority as established through exemption under Chapter 18, Department of General Services of the Code and the general powers of the Board of Regents as established under Chapter 262 of the Code.

Under provisions established in Chapter 18 of the Code, which established a new division on "Management of Loss and Loss Exposures of Government," insurance coverage for vehicles owned by the state was proposed to be under fleet policies to the extent possible. The new division and its responsibilities were to apply to the State Board of Regents effective July 1, 1980.

Prior to 1980, the Regents had tried to purchase fleet-wide insurance but found a lack of interest among vendors to bid on a fleet-wide policy. Consequently, the board delegated the purchasing of insurance to each Regent institution which was the case through FY 1980-81.

In 1981-82, the Regents joined the statewide motor vehicle fleet policy, a three-year retrospectively rated policy expiring in 1982-83.

Problems began to appear during 1981-82, the first year of Regent institution participation. Adverse experience in two of the three institutions led to a necessity to increase premiums after the fact to the maximum level allowed by contract. This resulted in costs substantially beyond that which the Regent institutions had experienced under fixed premium insurance contracts in previous years. Moreover, it became necessary, in order to resolve an impasse on allocation of the excess premiums for Regent institutions to accept performance as well as fleet size as a criterion for allocating the penalty premiums. Actual Regent premiums exceeded prescribed maximum premiums because of the added performance factor. In fact, the first year of the retrospective contract, 1980-81, excess premiums were returned to the Departments of Transportation and General Services on a proportional basis only with no consideration given to performance.

For FY 1982-83, the final year of the three-year contract, the most recently reported loss ratio suggests there may be premium refunds. Again, there has been no resolution as to how excess premiums will be allocated in 1982-83, but it is likely the Regents' request for a fleet size criterion will not be heeded.

The Board of Regents, the Department of General Services, and the Department of Transportation collectively developed specifications for a new insurance policy to cover a three-year period beginning in 1983-84, renewable annually. Both fixed premium and retrospective premium bids were solicited. There was only one retrospective bid and one fixed premium bid. The fixed premium bid favored Regent institutions but the bidder declined to separate the Regents from the other two agencies in that bid.

Subsequently, the Department of General Services purchased insurance for all three agencies. To date, Regent institutions have been billed for their share of the 1983-84 fixed (overhead) premiums. This premium is allocated on fleet size only. Since the Director of General Services (DGS) chose a retrospectively rated plan for 1983-84 which incorporates a paid claim rider, Regent liability is now under two forms: 1) payment of a fixed amount for administrative overhead for administering the plan by the insuror, and 2) direct payment of claims as confirmed.

Regent institutions determined after the contract was signed that there would be no sharing of claims to flatten the risk curve. Each Regent institution is now liable for individual claims not to exceed $250,000. Without the opportunity to avoid the direct cost consequences, Regent institutions have substantially increased risk exposure under this policy. Additional insurance separately purchased should be considered, if cost effective.

Policy Issues. There were fourteen vendors solicited for bids on the statewide automobile insurance contract and only two bids. There is some question as to the appropriate method to be used to achieve a reasonable

degree of competition for a policy which would range from $650,000 to an amount in excess of $1 million annually. The lack of competition on the statewide policy suggests that any theoretical cost advantages to a retrospectively rated policy over a fixed premium policy may well be lost. It suggests that an alternate purchasing strategy needs to be considered, for example, a bona fide insurance broker. This might eliminate the need for a state risk manager in favor of, possibly, an inter-agency risk management committee serviced in part by a professional broker.

Incorporating performance as a criterion for determining the allocation of premiums, while it has merit, can tend to defeat the very purpose of insurance -- to share risk. Further work should be done on establishing criteria which allow for a sharing of risk.

Management Concerns. Retrospectively rated insurance policies, whether they are a standard form or a paid claims form, make it extremely difficult to budget for user charge systems incorporated in any motor pool operation. Penalty premiums in 1981-82 resulted in additional charges being made to operating departments at a time when they had already suffered from appropriation reductions associated with state revenue shortfall. Further, the Division of Risk Management has been without a professional risk manager to oversee operations for almost two years. Each Regent institution, it should be noted, has a risk manager who is currently responsible for insurance and risk management. Finally, there appears to be an inordinate amount of time spent on administering a statewide insurance policy.

In 1980-81, Regent institutions paid an aggregate $98,500 for liability insurance on a fixed premium basis. In 1981-82 as part of the state's fleet under a single retrospectively rated insurance policy, Regent premiums increased to $141,300. For 1982-83 under a similar policy, it appears that more favorable experience may result in somewhat reduced premium payments. For 1983-84 and the following two fiscal years, it is too early to assess the impact of what is, in essence, a non-insured position for all claims up to $250,000. It is important to note that, in a fixed premium bid not accepted

by the Department of General Services for the current ten-month contract, the Regents' premium assessment would have been fixed at approximately $95,800--significantly less than the cost of the Department of General Services policy in FYL 1982.

It is believed that the Regents' overall claim experience over the last five years would warrant a premium no greater than a mid-point premium under a retrospectively rated policy. But most important, Regent risk management policy should seek insurance for its automobiles, not non-insurance for claims up to $250,000 with its attendant disruption of budgetary plans.

Recommendations:

1. Investigate the cost-effectiveness of establishing a separate Regent motor vehicle insurance policy under existing statutes. The Department of General Services has agreed in principle to the Regents bidding a separate fleet insurance policy for FY 1984-85. There will be three years of experience under two different types of retrospectively rated plans through one insuror with which comparisons may be made. Various options, including a retrospective and a fixed premium policy, should be bid.

2. Amend and clarify Division VI (Management of Loss and Loss Exposures of Government) in Iowa Code, Sections 18.160 through 18.169, to ensure effective management of risk by the Board of Regents for the institutions.

3. Amend and clarify Division VI, (above), to make any Regent participation under Sections 18.160 through 18.169 contingent upon demonstrable efficiencies and/or cost effectiveness.

4. Amend and clarify Division VI, (above), to limit insurance and risk management on a statewide basis to catastrophic coverage from separate appropriations for that purpose or other means to protect the state of Iowa against those risks.

Other Risk Management Subjects Studied but Without Recommendations

There were a number of topics considered by the committee in the risk management area which did not lead to recommendations.

Reestablishment of a Regent Risk Management Committee among the institutions and the Board Office to evaluate on an onoing basis risk exposures and methods of handling was considered. This would include insurance, transfer of risk, prevention of risk and financing alternatives, such as captives. Captives involve the establishment of a separate insurance organization owned by the institutions.

Consideration was also given to pooling of risks for insurance on a combined institutional basis where practical and meaningful. Contacts among Regent institutions and the Board Office appear to fulfill this function with no need of a formal committee.

Consideration of captives was reviewed and it was determined that at this time, the insurance dollars generated by Board of Regent institutions would not justify formation of a captive. This may be a subject that the Department of General Services should review on a statewide basis, although the current softness of the insurance market has resulted in insurance pricing levels that may preclude the financial advantages of captive formation.

Other areas that received committee consideration are:

Claims procedures, which seem to be functioning in a satisfactory manner.

Fine Arts Coverage, which is dealt with on an individual institution basis and appears to be satisfactory.

Athletic Injury Insurance, which is purchased separately by the institutions. This is being left to the discretion of the institution as to coverage and limits.

Chapter 3 -- Personnel Management

Task Force Chairperson: Paul Scott, Personnel Director, Procter & Gamble, Iowa City

Committee Liaison: Fred Nolting, Rath Packing Company, Waterloo

Task Assignment

This area of study included a look at the efficiency and effectiveness at all five Regent institutions in the following: reduction in state Unemployment Compensation costs; cost containment of Employee Benefits, with emphasis on health insurance and a review of cateteria type programs; institutional personnel management information systems in the generic sense and the institutional level and the opportunities for paperless transactions; Work Force Scheduling, job sharing, dual employment, flex time, Employee Classification and Task Analysis; Merit System Rules; phased and early Retirement Programs; and Employee Development and Training Efforts.

Background Information

The Board of Regents is the employer for approximately 16,800 full-time employees and approximately 15,300 part-time and student employees. The employees are engaged in every facet of the operation of the State's three universities and two K-12 schools for the blind and the deaf (special schools). The employees fall into three broad categories: a) The Regents Merit System with employees in some 350 classifications including groundskeeper, custodian, laboratory technician, secretary, and various skilled crafts; 2) Professional and Scientific with some 1,300 position titles including chief clinical lab technologist, senior curator of collections-art museum, coordinator of animal husbandry, and administrative assistant; and 3) Faculty and Institutional Officials/Administrators.

The Board of Regents has established broad governance policy for personnel operations which can be found in the Board of Regents Procedural Guide. Each of the institutions has developed personnel policies and guidelines approved by the board which further delineate the personnel operations of the institution.

A principal objective of the board has been to recruit, hire, and retain employees of outstanding ability and performance in order to maintain the Regent institutions' reputation for excellence in teaching, research, and service.

After considerable study it was determined that, in many areas, the Regent institutions had state of the art personnel practices and already had implemented policies that were being recommended by the Governor's Task Force for State government. However, additional recommendations were developed as outlined below.

29. Absenteeism

Discussion: The committeee reviewed absenteeism in general and sick leave usage in particular and did not find evidence of excessive use of sick leave at Regent institutions. For instance, data developed by the State Comptroller's staff for use in collective bargaining shows that the level of sick leave usage at Regent institutions is considerably lower than that for comparable employees in other state agencies. For instance, Regent staff had a 1.0 percent absenteeism rate while the comparable rate elsewhere in state government is 2.2 percent and the usual experience in private industry is 3-5 percent. Nevertheless, it is the judgment of the committeee that increased attention to absenteeism and specifically to sick leave usage is always of value in maintaining productive use of staff resources. The recommendations listed below call for the development of tools which administrators could use to identify problem areas and training in the skills necessary to eliminate sick leave abuse without

damaging the morale of productive staff members. The gain to be achieved would be long term, would be applicable to each of the institutions, is achievable, and would be quantifiable after the system was in place. Initiating the change would require funds for development of an automated monitoring system. The estimates contained below assume modest decreases in replacement salaries could be made.

Recommendation: It is recommended that each of the Regent institutions:

1. Establish a system for monitoring sick leave usage which would provide institutional and departmental administration with comparative information on sick leave usage.

2. Review with departmental administrators methods for preventing inappropriate use of sick leave, and

3. Review with departmental administrators methods for scheduling vacation which will lead to the most efficient use of staff time.

4. Review use of sick leave in the period immediately preceding retirement to determine whether or not sick leave payout upon retirement is fulfilling its intended purpose, and

5. Review accumulation of sick leave beyond the 240 hours necessary to be eligible to convert sick leave to vacation, to determine whether the minimum should be increased to equal the waiting period for disability.

Cost Savings: $26,000 annually.

30. Flex-Time Work Scheduling

Discussion: The committeee reviewed this concept and believes it encourages for organizational effectiveness by giving managers the

opportunity to schedule employees to work during the time when the employee may be most productive. The committee also acknowledges that the use of flex-time scheduling needs to be managed to ensure that it supports organizational effectiveness, while it provides desired benefits to the employee.

The following recommendation has already been implemented by all institutions. Its benefits are expected to continue on both a short-term and long-term basis. It does not require legislative action and at present has been implemented by all institutions. The committeee anticipates no cost required to continue its use.

Recommendation: It is recommended that each institution continue to provide employees and managers with the opportunity to schedule work on a flex-time scheduling arrangement.

Cost Savings: The potential for cost containment in this area is not believed to be significant, and the actual additional cost savings which might be achieved are not estimable. However, this recommendation has a positive impact upon employee morale and job satisfaction which in turn improves employee productivity.

31. Supervisory Span of Control

Discussion: The committee considered the impact of recommendations regarding the need to increase the present "Span of Control." The committee believes that this is an important management concept, but it is not easily mandated for an organization. "Span of Control" refers to the number of employees reporting to one supervisor. Earlier management theories have suggested, though without research support, that this ratio should be approximately 1 to 6. That is, each supervisor should not be expected to provide guidance to more than six subordinates. When applied to an organization, it suggests that the ratio of total supervisors to total supervised should approximate the ratio of 1 to 6.

Current and modern management literature reports this relationship is not absolute nor universally applicable.

The committee acknowledges that the effective "Span of Control" for any one supervisor is determined by the ability of the subordinate to assume self-direction and the complexity of the work being supervised as well as the need for control activities on the part of the supervisor. Where subordinates are knowledgeable regarding their job assignments and know how to perform their job, and possess the capability to be self-directed, the supervisor may effectively supervise a large number of employees (10 to 25 or more). Where a subordinate needs close supervision to ensure quality output and continued work effort, then a supervisor may well need to have fewer than six subordinates to supervise.

A recent inquiry into the "Span of Control" at Regent institutions resulted in the finding that the University of Iowa ratio of supervisors to non-supervisory staff was 1 to 9.5. For faculty the ratio was 1 to 14. At the Iowa School for the Deaf, this analysis determined the ratio to be 1 to 9.2, while it was 1 to 9.7 at the Iowa Braille and Sight Saving School. Iowa State University considered the ratio of all full-time supervisors to full-time employees (including faculty) and found this ratio to be 1 to 8.1. UNI determined that its span of control exceeded the recommended ratio.

It is the opinion of the committee that continued efforts to assist employees to increase their ability to perform their job duties and to assume more control over their work assignment will accomplish two goals. First, it will increase employee satisfaction with work assignments and enhance the ability to contribute to the university. Second, it will then reduce the supervisor's need to provide supervision over the individual and allow the supervisor to increase his/her supervisory "Span of Control" where appropriate.

The following recommendation is achievable over the long term. It is not an effort that will yield short-term benefits. If administered properly through training of supervisors and employees, it will increase the ability of employees to perform their respective job duties and will increase their

feeling of job satisfaction. This recommendation will not be difficult to implement nor will it require excessive cost other than that associated with any necessary training of supervisors and employees.

Recommendation: Considering present information regarding "Span of Control" in Regent institutions, it is recommended that each institution continue to study the present supervisory span of control at each level of the organization and within each unit of the organization. It is also further recommended that each supervisor be encouraged to train and develop subordinates so each will be self-directed and possess the necessary job skills in order to reduce the need for supervisory control. This would then enable each supervisor to widen his/her span of control without reducing the work unit's effectiveness.

Cost Savings: The potential for cost containment in this area is minimal. It is believed, however, that over a long period of time (three to five years) efforts to train supervisors to increase their span of control and to limit unnecessarily narrow spans of control would lead to increased effectiveness and reduced costs. It is believed that it would be difficult and unwise to attempt to estimate any savings due to the implementation of the singular act of expanding a supervisor's "Span of Control."

32. Participative Productivity Improvement

Discussion: The committeee reviewed the "Participative Productivity Improvement" (PPI) concept and its potential for improved efficiency within the institutions. A PPI is a small group of employees (usually from seven to twelve) from the same work area, who voluntarily meet on a regular basis (often once a week for one hour) to identify, analyze, and solve quality and production problems in their work area.

It is the belief of the committeee that organizational efficiency can be improved by utilizing this concept. These efforts increase employee morale

and motivation, generate employee participation in resolving production problems, and contribute to more innovative and effective problem solving.

The committee notes that initial tests of a PPI pilot project at Iowa State University have resulted in estimated savings of approximately $9,000, or an average of $3,000 per "quality circle" per year.

The following recommendation is achievable and will affect organizational effectiveness over the long term. The implementation of this recommendation would necessitate some training of facilitators on a local basis; it would also require one person to act as the program coordinator. The annual costs for implementing these "quality circles" will vary depending upon the procedure utilized, and the need for a full-time coordinator. It is estimated the cost per year will vary between $30,000 per institution where a full-time coordinator is required to $10,000 per institution where present staff are able to manage the program.

Initial training may be obtained by use of faculty within the institutions who are knowledgable about this procedure. If a training coordinator were to be hired to supervise this activity, it could be done on a quarter-time or more basis. Best results would be obtained with a full-time coordinator. While there is an initial cost required to initiate this recommendation, it is the opinion of the committee that expected benefits over time will exceed the initial investment.

Recommendation: It is recommended that Iowa State University be encouraged in its efforts to utilize and study so-called "quality circles" for improving organizational effectiveness. Further, it is recommended that the other Regent institutions each initiate and study the benefits in utilizing this concept.

Cost Savings: The following estimated potential cost savings for Regent institutions have been based upon the pilot study at Iowa State University. It has been assumed that the Regents would initiate 15 circles

in FY 85; 30 in FY 86; and 40 in FY 87. The savings achieved by each circle is estimated to average $3,000 per year.

	FY 85	FY 86	FY 87	Cumulative
Initiate	15	30	40	85
Total	15	45	85	
Savings/Year	$45,000	$135,000	$255,000	$435,000

33. Administration of Employee Benefit Costs

Discussion: The Governor's Task Force on Efficiency and Cost-Effectiveness reviewed the management of fringe benefits in state government (excluding the Regents) and found that there was no comprehensive system to manage this element of employee compensation. The Governor's Task Force recommended that the state appoint an Employee Benefits Manager to oversee benefits who should begin by undertaking a comprehensive review of employee benefits.

The committee reviewed the management of fringe benefits at Regent universities and found that each had already instituted a system of fringe benefit management led by a professional in the area. Each also had in place a committee of faculty and staff to provide ongoing oversight of the benefit systems.

Recommendation: The Regent universities should continue their current system of fringe benefit management.

Cost Savings: Since the Regent universities already have a benefit management system in place, no additional savings are anticipated.

34. Health Insurance/Awareness (Wellness)

Discussion: Staff members serving the Regent institutions continue to enjoy high quality health care services, but the cost of those services has steadily increased. Such costs between 1980-81 and 1982-83 rose by 50 percent from $12,315,000 to over $18,600,000.

Insurance committees at the three universities are maintaining a continuing review of developments in the health care field in order to ensure maximum staff protection at affordable premium cost levels. Cost containment provisions emphasizing the efficient use of health care premium dollars to meet the health care needs of staff members and their families have been instituted to control and moderate the rate of increase in the cost of health services. Containment actions relating to regular review and update of group plan design have permitted immediate cost savings to be realized. Deductibles, affordable co-payment and out-of-pocket cost maximum plan provisions have been instituted. A pattern of shared premium costs by Regent institutions and staff members has been continued.

Certain other experimental actions which involve plan design (e.g., out-patient, x-ray and laboratory testing, same day surgery, home health care, subrogation, second opinion surgery, stay well bonuses, etc.), employee communication and health promotion-wellness programs are somewhat unpredictable as to impact. Differing funding systems allowing for more direct control of premium dollars by Regent institutions are currently under study. The extent of savings that may be realized with adjusted coverage and revised funding plans can only be determined in the future with actual experience.

Efforts by institutions and the board to return Regents Merit System employees who are currently in the state health insurance program to institutional plans under an arrangement allowing for no increased cost for the state or universities have been and will continue to be pursued.

"Wellness" or "health awareness promotion" programs designed to help employees stay healthy have been adopted by a growing number of employers in recent years. These programs offer benefits in the form of improvements in employee health and well-being that are often difficult to quantify in purely financial terms. Nonetheless, health wellness programs ultimately may produce cost savings by lowering rates of increase in the cost of health insurance plans with reduced employee need for expensive medical services. Other potential benefits are increases in employee productivity, reduction in employee absences, reductions in employee turnover, increases in employee fitness and ability to manage stress, and improvements in employee morale.

Health wellness programs of varying degrees exist at all Regent institutions with the most extensive formal offering being provided at the University of Northern Iowa. Such programs serve to encourage employees to lead healthy lifestyles by providing information on nutrition, physical fitness, detection and treatment of hypertension, weight control/reduction, stress management, smoking, and alcohol/chemical abuse. The programs may include physical fitness, exercise classes, weight training and like activities. The committee commends the efforts that have been taken with staff health wellness programs and suggests that ways of expanding them be examined, consistent with available resources.

Recommendation: Insurance committees at Regent institutions should continue in their efforts to effect cost containment features and revised funding methods with health insurance plans. The committeee is of the opinion that cost savings can be realized with a greater awareness of the need for good health on the part of Regent employees. It is recommended that the Board of Regents adopt a policy encouraging the institutions to continue activities that increase health awareness. The already existing formal wellness program at the University of Northern Iowa might well serve as a model for staff health awareness programs in varying developmental stages at other Regent institutions.

Cost Savings: Containment of health related costs is likely to result from revisions in plan design, employee communication and health promotion/wellness programs. Savings can be realized with lower health insurance premiums and through increased productivity, yet cannot be reliably estimated in the absence of experience.

35. Group Life, Long Term Disability, Retirement Protection and Accidental Death and Dismemberment Insurance Programs

Discussion: Regent institutions have established and maintain employee group insurance programs on the basis of recommendations from the various staff groups serving on the campuses of the universities and special schools. Proposed new group insurance offerings and revised coverage with existing plans are being studied on a continuing basis, by fringe benefit managers in connection with institutional committees composed of employees from different employment sectors. It is on the basis of such studies that recommendations for program additions and revisions are developed and submitted to the board for consideration.

Group insurance programs administered separately at each of the universities are essentially comparable. Insurance plan reserves maintained in a separate manner by the three universities have, through the years, permitted the administration of the various programs to be carried on in an efficient and effective manner.

The committeee reviewed the potential for savings with the inter-institutional consolidation of term insurance groups. After consultation with the principal insurance carrier for the three universities, it was determined that each of the groups was large enough to make savings from consolidation unlikely. The one suggestion made was that retention reserve funds be consolidated. Projected savings with such consolidation was estimated at $10,000. The committee weighed potential savings against the loss of management incentive to control costs in an arrangement whereby risk was pooled among the institutions. It was the committee's judgment

that the cost resulting from the loss of management incentive would probably outweigh the modest savings that might be realized with the consolidation of reserve funds.

Since funding with the group insurance program for employees at the two special schools are handled through the State Comptroller, information on plan experience (e.g., dividends, interest, reserves, claim costs, etc.) is not available for the purpose of local administration.

Recommendation: The institutions and the Board of Regents should continue existing procedures for the review of group insurance plans, thus insuring adequate coverage at the most reasonable cost levels possible. Group insurance plans should be based on the needs of individual institutions and maintained with new or revised coverage agreements arrived at through institutional bid proceedings.

Cost Savings: Estimated cost savings associated with the consolidation of retention reserves for Regent institutions was found to be minimal and judged to be outweighed by the loss of management incentive to control costs.

36. Flexible Benefits Plan

Discussion: The committeee believes that the availability of a Cafeteria Benefits Plan at each institution could help in the recruitment and retention of quality faculty and staff. It could further aid in an improvement of employee morale and satisfaction which should have a positive effect upon productivity and organizational effectiveness.

Benefit packages within organizations have traditionally been identical for all employees. The present trend is to provide employees with the option of selecting a mix of benefits to meet individual needs. This new approach is what has been referred to as a "Cafeteria Benefit" plan or "Flexible Benefits." Such a plan would enable each employee to choose, from a number of benefits being offered, those benefits which the employee desires the most

as well as the desired level of each benefit. This opportunity allows each employee to design a benefits package which meets the unique needs of that employee and his/her family.

The following recommendation should be implemented on an institutional basis. The committeee believes that while there would be some potential costs required to implement this recommendation, these costs could be managed by using resources within the institution to help develop the program and by utilizing assistance from insuring institutions such as The Bankers Life.

It would take some initial planning and organization before such a plan could be initiated. It is estimated that the time required to plan and organize such a program would be between one and two years.

Recommendation: It is the recommendation of the committeee that each Regent institution examine the implementation of a cafeteria, or flexible benefits plan.

The committeee recommends that such a plan should provide a "core" benefit package which all employees would be required to purchase.

Cost Savings: The potential for cost containment by implementing this recommendation cannot be estimated. In fact, little cost savings would be expected in the short term. There is possible long term cost savings due to the potential for holding down increases in benefit costs in the future due to the fact that employees will adjust their benefit mix based upon need rather than ask the institution to increase a benefit which would not be needed by all employees.

The primary benefit from this recommendation seems to be the potential for increased morale and satisfaction which is expected to improve employee performance and productivity.

37. Unemployment Compensation

Discussion: The committee studied the cost of unemployment compensation at Regent institutions and determined that the institutional average cost was one tenth of one percent of payroll. The committeee also reviewed the current system of managing unemployment compensation at each of the institutions and found that though the methods varied, the results were comparable in terms of cost control. Moreover, the institutions appear to already follow the course of action recommended by the Governor's Task Force on Efficiency and Cost-Effectiveness, i.e., no institution contracts for services to handle their unemployment claims and all have trained staff available to manage the appeal process. Because of the relatively low cost and the demonstrable effectiveness of the existing control system, the committeee has no changes to recommend in this area.

Recommendation: It is recommended that the Regent institutions continue their existing systems for controlling unemployment compensation costs and review their levels of usage on an anual basis.

Cost Savings: Since the Regents already use the procedure recommended by the Governor's Task Force and have relatively low unemployment compensation costs, there are no additional cost savings in this area.

38. Workers' Compensation

Discussion: The Governor's Task Force on Efficiency and Cost-Effectiveness raised questions about workers' safety and related workers' compensation costs It was concerned about both unsafe work environments and the use of a funding mechanism which fails to place budgetary accountability on the agency in which injuries occur. Several recommendations related to both safety and funding were made.

With regard to safety, the Regent universities already appear to have established units on each campus responsible for environmental health and safety. Federal grant and contract requirements as well as state labor laws have made such units necessary. In addition, safety training takes place on each campus.

With regard to funding, the Regents are covered by the same procedure as other state agencies: appropriated funds managed by the State Comptroller pay for injuries suffered by those paid from appropriated funds; individual units are charged for injuries suffered by those paid from non-appropriated funds. The committee concurs that this funding procedure needs review.

Recommendations:

1. That the Regent institutions continue their programs related to environmental health and safety.

2. That the Regent institutions participate in any review of the state's funding and handling of workers' compensation claims.

3. That the Regent institutions participate in all discussions aimed at controlling costs which are incurred under the current state system.

Cost Savings: Since the Regents'savings in this area are dependent on statewide action, the committee was not in a position to estimate cost savings.

39. Retirement

Discussion: The Regents have approved a system of phased early retirement for faculty and professional and scientific staff which provides benefits while permitting faculty and staff members to reduce their percentage of appointment. It is the committee's judgment that there are institutional benefits

to be obtained from phased retirement for Merit staff and that the legislation necessary to make this possible is in the Regents interest. Experience with the faculty/professional and scientific program indicates that no additional resources will be necessary to initiate the program and that long-term savings from reduced staffing and replacement by lower salaried staff members can be anticipated. The gains in dollars and efficiency should be long term and are applicable to all institutions.

Recommendation

It is recommended that the Regents support legislation which would permit Merit System staff to participate in a phased retirement system which is comparable to that currently available to faculty and professional and scientific staff. Moreover, it is recommended that, as the Governor's Task Force suggests for state employees, the Regents permit eligibility at age 55 or with fewer years of service.

Cost Saving:

FY 85	FY 86	FY 87
$13,100	$52,400	$104,800

40. Management Information Systems

Discussion: The State of Iowa and the Regents have devoted substantial resources to developing the Personnel Management Information System (PMIS) for use in cost calculation for collective bargaining and development of legislative requests. The institutions currently run the program for their faculty and professional staff but cannot take advantage of the data base development for purposes of institutional management because they do not have access to the program source codes. Rather than re-do the work already done at great cost, the institutions should be able to take advantage of existing

programs at a time in which limited financial resources make it otherwise impossible to develop a sophisticated personnel management information system. It is anticipated that development of such a system would lead to more effective management of existing resources. The proposed change would result in long-term improvements and would not require any additional state cost while creating a saving in programming costs.

Recommendation: It is recommended that the Regents explore the possibility of obtaining source codes for the state's Personnel Management Information System (PMIS) so as to avoid unnecessary duplication of effort in the development of institutional systems.

Cost Saving:

FY 85	FY 86	FY 87
$40,000	$30,000	$30,000

41. Management Development and Training

Discussion: As the committee identified areas of study, it became apparent that in many instances it was necessary to consider the manner in which policies, procedures and practices relating to various programs are being administered. Certain programs and operations were found to be in need of review such as absence controls, sick leave usage, vacation scheduling, and service requirements with flex-time, where cost savings could be realized by improving the administration of operational systems. Specific training procedures/programs are needed to identify the area, to define desired administrative results, and to provide training on how results might best be accomplished.

Training programs were also found to be needed in connection with activities relating to quality circles and the role of managers in the administration of

institutional policies and procedures. In both of these areas, a basic understanding needs to be developed and then specific training on how to implement provided.

While major problems do not exist in the areas cited, it is believed that an awareness and understanding on the part of those who manage the various programs will help lower cost and improve operations. Improved productivity and efficiency at management levels will ensure implementation of effective cost cutting measures and contribute significantly to improving the productivity of all personnel.

Regents institutions have access to resources available through faculty and professonal-scientific personnel for the development and presentation of required training programs. Institutional personnel, as well as training specialists available from various governmental agencies as well as the private sector, should be utilized where appropriate. It may be necessary for the institutions to assign training and development activities to a specific person with the authority to ensure that this endeavor will be successful. While some cost may be experienced initially with such a training effort, resulting benefits will more than compensate over the long term.

Recommendation: Each institution should complete a detailed study of training needs with specific attention to the areas cited above, and identify available personnel with training experience so that an overall formal training effort might commence during 1984-85.

Cost Savings: The potential for cost savings in this area is significant but cannot be reliably estimated at this time.

42. Holiday Pay, Temporary Employees

Discussion: The Regent institutions do not provide holiday pay to temporary employees in the Regent Merit System. This practice is established by rules promulgated for the Regent Merit System.

Recommendation: That the Regent universities continue their practice of not paying temporary Regent Merit System employees for holidays not worked.

43. Military Leave

Discussion: The Board of Regents' present policy regarding military leave provides that an employee on thirty-day military leave receives his/her full institutional pay. This policy is consistent with state law and the advice of counsel. If the state elects to change the law so that an employee on military leave receives the difference between his/her military salary and the state-paid salary, the Regents can be expected to change their policy to be consistent with state law.

Recommendation

The Regents policy regarding military leave is controlled by state law and should make modifications consistent with changes in state statutes.

Task Analysis

44. Discussion: A classification system developed for the Regent Merit System in the mid 70's, along with a selection system which has been developed since, has provided an excellent foundation for the system. It has become apparent in the past few years that improvements in the areas of selection and classification are desirable because of changes in technology and activities of the institutions. In preparing to make these improvements the institutions and Board Office reviewed several methods of evaluating position classifications. Task analysis was selected as the most desirable of these methods. A preliminary study has been conducted with the assistance of an outside consultant to determine the resources necessary to improve the selection and classification activities of the system. The study was due from the consultant on May 1, 1984.

Recommendation: The board should await the study and the evaluation of the study by the institutions and Board Office staff before determining how to proceed regarding the selection and classification activities in the system.

Chapter 4 -- Administrative Support Services

Task Force Chairperson: Robert Soldat, Director of Purchasing, Firestone Tire Company, Des Moines

Committee Liaison: Eleanor Birch, Associate Dean, College of Business Administration, University of Iowa

Task Assignment

This area of study included examining efficiency and effectiveness at the five Regent institutions in the areas of Forms Control (internal and external); Travel, with special focus on how to deliver services with greater efficiency and effectiveness and with special emphasis on innovative approaches to purchasing travel services including possibilities for pooling and inter-agency cooperation which includes both in-state and out-of-state travel as well as state aircraft travel; Purchasing, including inventory management, the avoidance of conflicts of interest in purchasing, and emphasis on innovative techniques used by private industry; Vending services, including means of providing services; and Mail services, including greater use of second and third class mail.

Background Information

The committee reviewed the recommendations of the Governor's Economy Committee of 1979 pertaining to the above areas as well as the recommendations of the Governor's 1983 Efficiency and Cost-Effectiveness Task Force associated with these areas of study.

A review of the 1979 Economy Committee recommendations confirmed that recommendations in the areas of purchasing, mail, and forms control were made for the Department of General Services and are now in various stages of

implementation. This review also indicated that the Regents have implemented many of the committee recommendations.

The more recent Governor's 1983 Task Force on Efficiencies and Cost Effectiveness in Iowa State Government again addressed support services in the areas of purchasing, travel, and forms control. These appeared to be areas that continue to be a challenge to state government, especially as they relate to controlling costs. A review of the Governor's Task Force recommendations on purchasing confirms that many recommendations for central state government agencies are already operational for Regent institutions. This is also true in part for recommendations relating to travel. As it relates to forms control, all of state government needs to make substantial strides towards improving control and associated costs.

45. Negative Approval of Vouchers

Discussion: The primary objective for negative approval of vouchers is to reduce cost and paperwork by eliminating the requirement for departmental approval signatures on payment vouchers. Under this system each participating department continues to receive a departmental copy of the payment voucher with a stamped notice that unless the purchasing department is advised within a stated period of time, billing will be released to the accounting department for audit and check writing. Since purchase orders cannot be written without a requisition signed by the departmental administrative officer, there is no likelihood of payment for items where there was not prior approval for the purchase.

A negative approval system is presently being operated successfully at the $1,000 voucher level at Iowa State University. State auditors have given approval to the concept. That university is now considering moving to the $5,000 level. Analysis of existing information would indicate that the most substantial portion of any savings can be achieved at a $1,000 level.

Efficiencies noted are as follows:

- Improved timeliness in payments to vendors with increasing interest by bidders in bidding on contracts.

- Reduction in professional time spent in responding to vendor requests for payment information.

- Clerical time saved by not having to reprint vouchers, reduced filing requirements and reduced time utilized by the Accounting Department and the mail room as it relates to routing and processing of vouchers;

- Time saved for all university departments no longer required to sign numerous voucher payment requests; and

- Maximizing of cash discounts earned.

It is recognized that some additional cost would be involved in the development of systems at the University of Iowa and the University of Northern Iowa. It does not appear to be feasible at this time at the special schools owing to the small volume of purchasing involved.

Recommendation: Where feasible a negative approval system for the payment of vouchers at Regent institutions should be implemented. The system would be for all vouchers for $5,000 or less, but lower amounts may be considered appropriate for entry level.

Cost Savings: Among the three Regent universities if the system were implemented at the $5,000 level, estimated direct savings and/or cost avoidance is conservatively estimated below:

FY 1985	FY 1986	FY 1987
$85,066	$92,000	$96,000

Because of the limited experience with this system, the above estimated savings should be considered a first approximation only.

With the auditor's approval, it does not appear that any legislative action would be necessary for continued implementation of this system.

46. Equipment Recycling/Management

Discussion: Regent institutions have equipment valued at an original cost of approximately $227,000,000. At least half of this equipment has been purchased with nongeneral funds. The management of an equipment inventory of these proportions is difficult. It is known from experience that some of this equipment sits unused for extended periods of time in departments while it could have been used elsewhere in a given institution. In the case of research equipment the University of Iowa and Iowa State University have implemented systems to match research equipment needs with research equipment availability within each institution. This has lead over the years to substantial cost avoidance. This is not a permanent transfer of equipment but a shared use concept. At Iowa State University, this has been formalized in a "Research Equipment Assistance Program" (REAP) and is computer-assisted with broad distribution of information on available equipment. A similar system exists at the University of Iowa.

It is reported that in calendar year 1983 REAP received 2,068 requests for equipment and other items. Of these, 97 percent were satisfied. The book value of the items transferred was estimated at $351,000. This specific program currently maintains records on more than 9,000 items or approximately one-fourth of the university's total equipment items. The REAP program temporarily assigns existing equipment which in most cases will result in cost avoidance on the part of the user department.

Recommendation: At each institution, a committee should be established to be charged with a periodic (at least once every four years) walk-through inspection of all offices, laboratories, and storage spaces at Regent institutions. The purpose is to determine availability of equipment no longer required by a particular department. The review should encompass both expendable supplies and equipment. Equipment is defined as items costing $300 or more and having a useful life of at least one year.

What is recommended here, however, is not a temporary relocation of existing equipment but a reallocation. There may be need to delegate responsibility for the personal inspections on a decentralized basis because of the substantial size of three of the five Regent institutions. Moreover, the committee might well need to address some type of incentive system to encourage the identification of unneeded supplies and equipment. Providing such incentives can be found, they would greatly enhance the effectiveness of any expanded equipment recycling project.

The following actions should be taken:

1. All campuses "systematize" equipment recycling with some form of central coordination and top management support.

2. That an incentive system be established at each institution to encourage routine identification and recycling of functionally obsolete, surplus, and/or underutilized equipment and stores of supplies.

3. That the incentive system yield usable items of comparable value, cash (allocations), or cash equivalents (scrip), accruing directly to participating (donor) departments.

4. That the cost of any such system incurred prior to implementation could conceivably reduce real savings substantially but of an indeterminate amount.

Cost-Savings: The estimated impact of a comprehensive recycling/property management system would ultimately reflect replacement costs rather than original costs. Costs of personal inspection, as well as costs of any computer-assisted inventory reporting subsystem and depreciation must also be considered. Gross cost avoidance under a comprehensive program is estimated as follows:

FY 1985	FY 1986	FY 1987
$1,050,000	$410,000	$510,000

As is noted above, the major saving, primarily through cost avoidance, would occur in the first year of a walk-through with smaller savings estimated for each following year. Providing Regent institutions can devise a meaningful incentive system for identifying excess property, the estimated savings or cost avoidance noted above may be conservative.

47. Advance Planning for Equipment Needs

Discussion: A survey of Regent institutions has disclosed that purchasing departments now receive timely notification of planned purchases as they relate to capital projects. This is the result of the timelines required to take a proposed capital project from conception through opening of the building. There is little room for error. Failure to bring the purchasing department into the planning process could result in a delayed opening with increased costs.

Purchasing departments also need to be brought in at a much earlier time in the operating equipment purchasing process. Complicating the equipment planning process is the need to utilize equipment related funds to stabilize institutional finances during periods of fiscal uncertainty.

During times of budget uncertainty, institutions prudently tend to defer equipment purchases to as late in a year as possible in an effort to

protect against reduced revenues and the potential of laying off personnel as a consequence of reduced revenues. This planned delay in the use of equipment funds may now result in equipment charges planned for the current year becoming next year's liability.

From the foregoing, it can be seen that any preliminary planning work ~~that can be achieved~~ by the central purchasing department at each Regent institution should lead to a more efficient use of existing resources. Cost savings could also be reaped by batching orders.

Recommendation. Regent institution purchasing departments should be systematically involved in the preliminary planning stages for operating equipment needs. Regent institutions should establish as a matter of policy that purchasing departments be drawn into the equipment planning process at the earliest possible date.

Cost Savings: Savings from implementing this recommendation will be in the form of minimizing lost purchasing opportunities in any given year. It will also give central purchasing departments an opportunity to review on a comprehensive basis proposed purchases and improve the chances of reducing duplicative or unnecessary purchases while increasing potential for quantity discounts by consolidating requirements. Finally, improvement in the planning of purchasing equipment may lead to substantial savings associated with price inflation through minimizing delays in purchasing.

48. Systems Contracting

Discussion: Systems contracting is an agreement between a vendor and a customer where the vendor agrees to maintain an inventory of supplies or materials until required for use by the customer. Merchandise is to be delivered on demand after notification by the customer. There is a guaranteed price for the contract period. The user will provide the vendor a history of purchases for the particular product involved. Thus, the vendor can maintain a realistic inventory level for the user.

Many organizations find systems contracting a simple, cost-effective way to acquire inexpensive, high volume usage items on a competitive basis.

Systems contracting is already being used at Regent universities in differing degrees. All agree that for the kinds of items described above, system contracting should produce savings. These savings can be summarized as follows:

° Reduced paperwork costs -- fewer quotes and purchase orders

° Reduced buyers' time spent on small orders

° Shortened delivery times

° Reduced inventory stock levels

° Reduced dollars invested in inventory

° Reduced inventory space

° Reduced total acquisition costs

Iowa State University most recently implemented systems contracting in 1982. The University of Iowa has utilized this form of acquisition for many years, primarily to reduce inventory investment costs and to minimize additional warehouse space needs. The University of Northern Iowa also contracts for a number of items in a similar fashion.

Recommendation. That systems contracting be implemented throughout Regent operations where possible and practical.

Cost Savings: The budget impact is significant according to university estimates. At the University of Iowa it is estimated that approximately $170,000 annually is saved by utilizing systems contracting. The budget impact at Iowa State University based on sixteen existing contracts ranges from $8,000 to $14,000 annually from FY 84 to FY 87. Conservative estimates of savings through existing contracts are as follows:

FY 1985	FY 1986	FY 1987
$181,000	$183,000	$184,000

The desirability of utilizing the system is that contract benefits are almost immediate. Moreover, the competitive bidding involved follows Regent purchasing policy.

49. Direct Entry of Small Purchase Orders

Explanation and Justification. It is generally acknowledged there is little economy in seeking competitive bids on orders of $300 or less. The use of direct entry of proposed purchases into the purchase order computer data base files will eliminate duplication of key strokes by departmental secretaries and purchasing department clerks. There are clerical savings in both the user department and the central purchasing department with less paperwork.

At present, the University of Iowa has a similar approach utilized by the hospital pharmacy department. At Iowa State University, a small number of departments with interactive computer terminals have been applying the direct entry procedure on small purchases.

The system is controllable through special coding. Coding can control entry and actual utilization by each department. Unique coding will also limit abuses to the system. Abuses could occur when a requestor attempts

to split orders to the same vendor to bypass bidding requirements. A unique numbering system will allow central purchasing to determine if the same product is being ordered on subsequent orders within a relatively short time span and would result in an inquiry.

Merchandise may not be ordered without approval of the central purchasing office and all contacts with vendors are made through the central purchasing office.

Recommendation. That Regent departments be authorized where practical and feasible to have direct access through interactive computer terminals to the purchasing department's purchase order file for direct entry of purchase orders. Transactions would be for $300 or less and would require approval of the purchasing director.

Cost Savings: The budget impact on Regent institutions providing direct entry of purchase orders can only be approximated and then on only a very limited sample. Estimated savings on the new project at Iowa State University are as follows:

FY 1985	FY 1986	FY 1987
$ 3,000	$ 4,000	$ 5,000

Savings noted above are based on key entry operator time. As the number of user departments would increase so would the estimated time savings on the part of key entry operator time. Savings would be either in reduced operator time or increased ability to process orders without a corresponding increase in staff.

In addition to the need for interactive computer terminals in user departments, other costs would be the training of clerks to learn direct entry methods of small purchase orders. Where computer programming for direct entry systems does not already exist, programming start up costs may be incurred.

50. Travel & Transportation

Discussion: Regent institutions have taken the leadership in state government in travel planning. The University of Iowa with its in-plant travel center or a branch travel agency-on-the-campus concept should be able to demonstrate actual travel savings and cost avoidance in excess of $.5 million in its first year of operation. These centers are eligible for reimbursement of certain of their operating costs. Reimbursement is in the form of rebates from airlines, hotels, and car rental agencies. A major portion of the savings or, in this case, cost avoidance is in user departments. This results from being able to identify the lowest cost discounted air fares. Additional savings have been achieved by the university through reduced cash flow requirements resulting from the use of a single credit card for billing purposes. A high quality of service has also been maintained. Air travel in excess of $1 million annually is necessary to qualify for this type of operation.

At Iowa State University, an alternate travel planning concept has resulted in a competitively bid contract calling for the services of a single travel agency on all air travel. The university anticipates realizing a 3 percent prompt payment incentive on all air travel which could yield up to $70,000 a year to the university depending on the quantity of business. A guarantee of lowest cost air fare will provide additional savings to user departments.

Currently, the University of Northern Iowa manages travel arrangements through its central purchasing department with purchasing department staff making inquiries in order to achieve lowest cost tickets. Since the level of air travel at the University of Northern Iowa would not make the institution eligible for an in-plant branch travel center, the alternate Iowa State University competitive contract approach may offer a cost saving alternative and should be carefully investigated.

Recommendation. That the University of Northern Iowa should determine the feasibility of planning air travel through the use of a single vendor.

Cost Savings. Based on $150,000 a year in air travel, the University of Northern Iowa may be able to achieve an additional $4,500 in direct savings, providing that a competitively bid contract with a single travel agency could be obtained. There may be additional savings resulting from cash flow if a single credit card approach were also used. If neither of these savings is feasible, then having a travel agency plan all air travel planning should free up purchasing department time. This would allow the department to increase its efficiency by concentrating on other kinds of purchases.

51. Freight Savings

Discussion. With the deregulation of shipping, without expert assistance it is almost impossible to determine the least costly way to ship. For Regent institutions, shipping primarily means the costs of receiving rather than sending. During the mid-1970s Iowa State University contracted for a post-audit on selected freight bills on incoming shipments. The audit found overcharges of approximately $24,000. The overcharges were recovered and shared with the investigating firm as contracted. There is some evidence available that shipping merchandise prepaid (FOB Destination) in a deregulated environment may be more costly than purchasing the product and arranging for shipping separately (FOB Shipping point). A determination of the least costly method must be made. If arranging one's own shipments is less costly, the question of the cost effectiveness of hiring a transportation consultant or establishing an in-house capability should be answered.

Recommendation. The Regent institutions, in cooperation with the Board Office, should undertake a feasibility study to determine if estimated freight savings warrant moving from a prepaid freight policy on shipments received to negotiating directly with shippers on freight costs from the shipping point.

Cost Savings. Undetermined.

52. Vending Services

Discussion. All Regent institutions have vending services. Some are operated with institutional staff while others are contracted. Four of the five Regent institutions primarily contract for vending services. The variety of services offered and varying degrees of in-house management expertise have tended to dictate how vending services are managed. Moreover, because of the geographical locations of the five Regent campuses and the complexities of the operations involved, there does not appear to be a reasonable way to consolidate vending services Regent wide to effect savings. Therefore, the only reasonable response appears to be that each institution be required to evaluate on a situational basis whether it is appropriate to contract for the service or manage the service as an auxiliary enterprise.

Recommendation. The Regent institutions should establish the cost justification and/or service justification for continuing with vending service contracts or, alternately, the establishment of institutionally managed vending operations. Regent institutions should also periodically communicate with each other on opportunities and problems associated with vending services at their respective campuses. Because of the diverse nature of the operations at each campus and the varying degrees of management expertise in the vending services area, shared experiences may result in improved efficiencies either in the form of services or in the form of cost reduction.

Estimated Cost Savings. Undetermined.

53. Mail

Discussion. The committee investigated the following areas: classes of mail; pre-sorts; the use of envelopes; mail drop and pick-up system; equipment; transportation for delivery on and off campus; zip plus four; on-the-job training of staff; off-campus delivery by other than the Post Office; postage meters and stamps; user surveys; and advisory groups. In

general, mail management, in part because of external regulation and in part because of the extreme importance of communications at Regent institutions, may be described as progressive. It is an area where sophisticated equipment has been demonstrated as cost efficient and is found in Regent institutions. Electronic scales, for example, may be saving Regent institutions as much as 10 percent in postage costs.

An area in which there are differences in management policy at Regent institutions is access to postage meters and bulk stamps. It is believed that a needs assessment is appropriate in that whatever means of limiting postage costs available should be undertaken. This is not to say that decentralized access to postage meters and bulk stamps in itself leads to added postage costs, but tight control on meters and bulk stamps will narrow the focus of accountability. Moreover, there may be opportunities here to reduce labor costs associated with fewer mail stations.

Recommendation. Each Regent institution should conduct a needs analysis on the number of postage meters and bulk stamp stations with the objectives of limiting direct access to postage meters and reducing the number of mail service stations.

Cost Savings. Undetermined.

54. Forms Control

Discussion. The control of forms is recognized as almost a universal problem in both the public and private sectors. The Governor's Task Force on Efficiencies and Cost-Effectiveness has recommended that the state (excluding the Board of Regents) initiate a state forms control program within the Records Management Division of the General Services Department. The Board of Regents institutions should move forward on forms control independently.

In the most recent fiscal year, Regent institutions reported $3.3 million in expenditures for printing. It is estimated that from one-fifth to one-half of all printing expenditures may be attributable to forms printing.

As part of the Committee's inquiry into forms control, institutions were asked to complete a short questionnaire. The results in part indicate the following:

° Only two of five Regent institutions acknowledge some type of control on forms. One is centralized while the other combines elements of centralization and decentralization.

° Only one of the five Regent institutions has a centralized committee that addresses records management including forms.

° Only one Regent institution acknowledges having established a numbering system for its forms.

° One Regent institution is unable to estimate the amount spent on printing forms in the prior fiscal year.

° Two Regent institutions are unable to estimate the number of forms on their campus. Estimates supplied ranged from a low of 300 to a high of 2,500.

Available literature suggests that printing costs associated with forms may represent no more than 5 percent of the total cost associated with forms, that is, costs from designing through disposal. The largest cost is estimated to be usage, that is, employee labor, machine costs, and storage space costs.

There is substantial potential for cost savings providing Regent institutions are able to get forms development and use under reasonable

control. Providing this is a reasonable objective, it is believed the first step is to recognize the problem and organize to review the extent of the problem. It is believed that a forms need assessment may be the first reasonable step in reducing the number of forms used and therefore the costs associated with those forms.

Regent institutions currently contract jointly for a number of items of common usage in order to achieve economies of mass purchase. These contracts are developed and coordinated by the Regents Ad Hoc Purchasing Committee. There is justification for further exploring the possibilities of joint contracting on some common use forms. Whether this approach is feasible or not is unknown at this time; however, a more focused approach to forms control (management) on an institutional basis should lead to savings in printing costs.

Recommendation: Each Regent campus should establish and maintain a committee on forms control for the purpose of limiting the proliferation of forms and reviewing need for existing forms. Further, the committee should be responsible for initiating a needs assessment on existing forms where appropriate. Finally, this committee should work cooperatively with printing services and purchasing with the objective of reducing forms printing costs. Regent institutions should identify forms that have the potential for joint contracting among all Regent institutions.

Cost Savings: If it were assumed that one out of every four printing dollars spent at Regent institutions is associated with the printing of forms, then approximately $825,000 in printing costs would be involved. In any event, if Regent institutions were able to reduce those costs by even 5 percent annually, $41,250 annually is estimated to be saved.

-- Other Topics Reviewed Without Recommendation --

Buyer-Vendor Relationships

Substantial time and effort were devoted to evaluating buyer-vendor relationships and any tendencies toward complacency or convenience that contrast with Regent purchasing policy which affirms:

> that the best interests of the State of Iowa and the Regent institutions are served through implementation of a full and free competitive purchasing system fostered by the use of open specifications, competitive bids or quotations, and awards to the lowest responsible and responsive bidder.

In the purchasing process there is always the possibility of buyers showing favoritism to certain vendors. Vendor bias can result from various circumstances. It could be a matter of integrity. It could be a matter of buyer complacency in not continuing to seek the most competitive response. It could be that a vendor who performs well is able to gain more business as a result of previous services rendered.

The question addressed is what safeguards are provided by Regent purchasing departments to make it difficult for buyers to show favoritism among vendors?

The consensus is that it is much more difficult to show favoritism among vendors in the public sector than in the private sector.

The major deterrent to favoritism is the Iowa open records statute that requires that all written material associated with a bid or order be accessible to any interested person. This means that all prices, terms, additional offerings and other conditions are a matter of public record.

Moreover, if a supplier believes there are grounds for complaint either as a result of the number of direct orders or awards resulting from bids, each has the right to review the specific transactions in question. Each has the right to voice concerns to the Regent purchasing director involved. Providing the vendor does not believe the institution's response is sufficient, the supplier may make a direct request for inquiry by the State Board of Regents Office. This process, it is believed, is a strong deterrent to complacency on the part of Regent institution buyers.

Additionally, Regent oversight of the purchasing function through policy, direct interaction with institutional purchasing directors and institutional level buyer performance reviews tend to work against the development of inappropriate buyer-vendor relationships.

Rotation of buyers among specialty areas was suggested as a means of preventing buyers from becoming too familiar with vendors which might, in turn, lead to less than competitive purchasing conditions. It was noted that this could also provide cross training and serve to strengthen the purchasing departments by having buyers capable of handling more than one area of purchasing.

Each of the universities responded to this suggestion by advising that they do use cross training of their buyers wherever feasible. It was also noted that the universities are involved in some highly specialized areas of purchasing. In these areas, it is believed it would not be practical to rotate buyers because of the confusion it would cause and the ultimate increase in costs involved.

B. Central Voucher Payment System

The potential for a central voucher payment system was carefully reviewed. It was concluded that costs associated with establishing a central computer center, the cost and time of transmitting information from various locations in the state, the unique account coding systems at each Regent institution,

potential loss of quick follow-up systems at each institution, the potential for vendor confusion among Regent institutions with a central system, the general high level of paper processing efficiency already demonstrated at each Regent institutions, and the likelihood of needing legislative action given the current statutory decentralization of the Regent treasury function all lead to the conclusion that central voucher processing would be neither efficient nor cost effective.

C. State Audits on Purchasing

Since 1980, audit exceptions on purchasing have related to source of funds for payment and in one case a misreporting of goods received. There were no indications of inappropriate purchasing procedures. The Board of Regents as a matter of policy follows up on all vendor complaints, either at the institutional level or at the Board Office level. In this way vendor concerns are carefully reviewed in terms of Regent purchasing policy with a careful eye being kept on the potential for breaches in the competitive process including conflicts of interest. No recommendations were made.

D. Consignment Contracting

Consignment contracting was evaluated; this is a procedure allowing vendors to place goods in the customer's storeroom at a contracted price, to monitor inventory, and to maintain inventory levels required at the consignor's cost. There were some potential cost savings in reduced capital requirements to maintain inventory, cash flow and reduced labor costs to process and control inventory. Under this system the user would pay for goods as they are used. The system is seen as an adjunct to systems contracting noted above. Time and resources did not allow for a reasonable evaluation of this system. Therefore, no recommendation was made. Further study may be in order.

E. Small Purchase Orders

Small purchase orders systems were considered. This is a local small order system for purchasing that is conducted directly between the using department and the vendor without a formal requisition process but with a confirming procedure. It was determined that this system is already in place at all Regent institutions.

Chapter 5 -- Cash Management

Task Force Chairperson: Tunis Den Hartog, Executive Vice President, Home Savings, Waterloo

Committee Liaison: Neil Wilson, Department of Marketing, University of Northern Iowa

Task Assignment

This area of study examined the management of cash, including a review of all state law restrictions on investments of cash, and the handling of accounts receivable and payment practices.

Background Information

The committee reviewed three areas of the Regents cash management system: receipts; disbursements; and investments. The bases for the committee's efforts in these areas are incorporated in existing state statute where the Board of Regents is given separate treasury authority and separate authority to administer all receipts and disbursements of its institutions. From these dual authorities flows the responsibility for banking and investment functions that is cash management.

The committee outlined areas of opportunity in terms of improving cash management. Those areas are as follows:

1. Bank Selection. The committee considered the number of banks used by Regent institutions with the objective of improving the cash flow through reducing levels of deposits required, assuring proper fund security, improving level of services through establishing criteria for the selection of depositor banks and through consideration of associating with automated clearinghouse systems (ACH).

2. Cash Receipts and Disbursements. A group of opportunities were reviewed with the objective of increasing cash flow in and controlling cash flow out. Included in this set of study items were deferred tuition and fee payment plans, automatic teller machines (ATM), and negative approval of vouchers.

3. Investment Opportunities. A third study area related to the investment of available cash balances and the use and/or selection of securities as a means to improve investment yield. By statute, the Regents are required to obtain the maximum return on investment allowable by law. The committee examined the limitations placed by statute on Regent investments and reviewed the alternatives.

Discussion/Recommendations: From the above study areas, a series of recommendations have been developed:

55. Establish Standards for Bank Selection.

The committee recommends that the Regents establish a set of criteria for the selection of depositor banks. In addition, a group of alternate criteria should be established that will allow each institution to tailor depositor bank selection to meet the specific needs of the institution. A major consideration must be the scope and quality of services the bank can offer including but not limited to the following for Regent universities:

- Computer tapes must be compatible with university.
- Must have capacity to provide bank reconciliation data as required.
- Must have ability for daily investments as broad as currently available to the institutions and capacity to provide the same investment management services.

- Must cover withdrawals on a daily basis at adequate levels for institutional need.

- Must receive and process Federal letters of credit on a timely basis.

- Must transfer funds without advance notice in large volume amounts.

- Must provide custodial and safe keeping arrangements.

- Must provide lock box service.

- Must handle account overdraft in million dollar denominations.

- Must have capability of acting as paying agent.

- Must provide appropriate level of securities pledged against maximum deposits.

- Must provide and maintain automated teller machine (ATM) in areas required by the university.

- Must provide linkage to national automated clearinghouse (ACH) systems.

A careful analysis of impact of such specifications on the competitive bidding process should also be made.

Cost Savings: This action would increase efficiency and have an undetermined effect on income.

56. Reduce the Number of Depositor Banks.

It has been determined that by reducing the number of depositor banks at at least three of the five Regent institutions, reduced deposit balances

will increase cash flow available for short term investment. Presently, the University of Iowa uses five depositor banks; Iowa State University uses five; the University of Northern Iowa makes use of two; Iowa School for the Deaf, one; and Iowa Braille and Sight Saving School uses two depositor banks.

Cost Savings: It is estimated that $200,000 a year in additional investment income can be earned through reduced bank deposits resulting from reduction of the number of depositor banks.

57. Modify Escrow (Pledge) Agreements. It is recommended that the level of current escrow agreements necessary to secure deposit balances under all circumstances be established. There are a number of time periods where deposits exceed escrow coverage at each Regent institution. In FY 83, each institution had occurrences where some financial exposure existed; in at least one case, these periods of exposure occurred over 100 times in one year. Fully securing of Regent cash deposits is fundamental to any cash management program.

Cost Savings: Increased financial security would be obtained.

58. Continue Reverse Repurchase Agreements. It is recommended that existing reverse repurchase arrangements be continued while recognizing the very limited investment opportunity for Regent institutions overall. Reverse repurchase agreements are those agreements between a banker and depositor where securities owned by the depositor are loaned to the bank for a specified time period with interest above that already earned on the securities. These securities allow the bank to increase its loan capability while maintaining appropriate security reserves. It has been determined that this arrangement is feasible only for the University of Iowa at the present time.

Cost Savings: None above present level anticipated.

59. Review Check Cashing Services

It is recommended that the Board of Regents perform a cost analysis of check cashing services at all campuses to assure they are cost effective. There may be many more sites performing check cashing services than are needed and this may not be cost effective. The installation of an Automatic Teller Machine (ATM) would depend upon whether a financial institution felt there is enough traffic to support one.

Cost Savings: Undetermined.

60. Phase in Deferred Tuition and Fee Payments With Services Charges

The committee believes that a fee should be charged relating to the cost of money and cost of handling deferred tuition payment plans of the institutions. At present there are two tuition payment plans in operation. The Iowa State University system requires that all tuition and fees be paid at the beginning of each academic term. If the student is unable to make full payment, short term loan funds charging one percent per month on the unpaid balance are made available. This policy allows the university to have available for immediate investment the full amount due. If this system were to be modified to a deferred tuition and fee payment plan with a one percent service charge, it can be demonstrated that a negative cash flow, that is a loss of investment income of approximately $200,000 annually, would occur. It is recommended that Iowa State University continue with its current tuition and fee payment plan.

At the University of Iowa and the University of Northern Iowa, there are deferred tuition and fee payment plans. Both are without service charges with the exception that, at the University of Northern Iowa, there is a one-time charge of $5 to participate each academic term. The University of Iowa charges a $10 reinstatement fee each time a student misses a payment.

The committee believes that requiring a deferred payment charge would appropriately reflect the cost of funds to the institutions without changing the level of tuition. The committee believes that such a plan should be phased in gradually, for new students only. While the impact of such a fee on student access should be closely monitored, it is not expected to be significant.

Cost Savings: At the University of Northern Iowa, adding a one percent service charge on the unpaid balance based on current deferred payment experience would yield approximately $116,000 in additional revenue annually. At the University of Iowa, an annual estimated increased revenue of $530,000 could be expected. Increased operating costs of administering the new service charge at each institution would reduce the income generated. These administrative costs have been estimated by the institutions as up to one-third of the additional income. Also, a phase-in approach would reduce the additional revenues received during the first few years of the charges. In addition, reduction in enrollment, if any, caused by the fee, would reduce the cost savings.

61. Broaden the Investment Authority of the Board of Regents

It is recommended that the Regents seek an amendment to Chapter 262.14 of the Code of Iowa to expand Regent investment authority to include investing in bank certificates of deposit, bank acceptances and commercial paper. It is recommended that non-statutory limitations be established for investment shares so that portfolios do not become dependent on one type of security. This expansion of authority could be accomplished without significantly affecting the security of Regent investments.

It is also recommended that there be ongoing review of investment policy by the Board of Regents and its institutions.

Institutions are now limited in their investment by statute to the following: bonds or other evidences of indebtedness issued, assumed or

guaranteed by the United States of America or by any agency or instrumentality of the United States; and in bonds of this state, and of counties, cities and school districts in Iowa.

Cost Savings: It is estimated that yield on investments exclusive of those established under academic, dormitory and other self-liquidating facility bond indentures could increase yields one percent on the average with expanded investment authority. Estimated increased revenues from a modified investment authority for the next three fiscal years using the one percent assumption could amount to $874,000 annually.

Chapter 6 -- Communications and Computer Services and Technology

Task Force Chairperson: Lawrence Ferin, Vice President, Charter Data Services, Inc., Des Moines

Committee Liaison: Robert W. Boeke, Senior Vice President and Director, John Deere & Company, Moline, Illinois

Task Assignment

This area of study included a look at increasing efficiency and effectiveness for all five Regent institutions the following areas: Computer Reports; alternative uses of Technology, integration of Audio-Visual and Communications technology; Electronic Mail; Office Automation; the review of Telephone status at University of Iowa and Iowa State University, with consideration of possible implications for University of Northern Iowa, Iowa School for the Deaf and Iowa Braille and Sight Saving School; and analysis of Computer operations in non-academic areas.

Background Information

The committee carefully reviewed the communications and computer services operations of the institutions. While rapidly changing technologies made specific recommendations hazardous, at best, the committee was able to identify trends. The committee found the Regents systems well-managed and as efficient as seen anywhere in the private sector. The committee commends the Regents for this fine record and encourages continued diversity in operation and increased emphasis on research and development.

62. Data Processing, Alternative Technologies, and Office Automation

Discussion: Each of the Regent institutions supports an administrative data processing (ADP) entity to meet its needs for the management of administrative information. The data processing entities are strongly supported as vital elements in helping the institutions fulfill their missions.

The administrative data processing entities at the universities are organized as service centers and receive all financing on a cost-recovery or charge-back basis with no direct allocations from the universities. This method of organization and financing differs from that of most other university entities and from that of many other university data processing centers, but offers the major advantage that all data processing efforts are continuously reviewed for efficiency and effectiveness by the users of the services.

The objectives of the university data processing centers are to tie all information management systems into a network, and to manage information for accuracy at the time of use, accessibility to those who need it, and security from unwarranted uses.

The three university data processing centers provide complete support for administrative information systems at each campus. All three centers support systems for administrative matters including payroll, university accounting, student records, alumni, physical plant, university stores, and personnel records. This support includes consulting with users about information management needs, design, testing, implementation, maintenance, and modification throughout the life of a data system. Each center supports interactive systems for the majority of its information systems, and uses batch processing where necessary.

An additional objective is to provide services at rates that can help the centers' users maintain cost-effective operations. To meet this objective, the centers work to keep rates for computer and staff usage as low as

possible while still rendering effective, high-quality services. Rates compare favorably with those of many other universities.

To meet their overall objectives, the centers have built information bases in the major administrative areas such as student and alumni records, university financial and personnel records, and university purchasing and physical plant records. With an integrated information network approach, and with sufficient breadth to meet the varied needs of all administrative entities, the Centers plan to help avoid the data duplication and inaccuracies that can occur through the proliferation of independent systems and data bases.

Alternative technologies for the management of information include paper, microfilm, microfiche, and various computerized technologies including integrated data processing networks and stand-alone or personalized systems based on microcomputers along with communications. The three university centers examine all technologies when the need for new information systems arises to determine which technology best fits the needs of the system and which best integrates with existing information management systems. The basic principle that the centers follow is to use computerized, integrated systems as much as possible; they do employ other strategies, but always with an eye towards working other technologies into a network so that they can be effective for the long term.

Office automation refers to a process of using technological resources, such as computers, to create, use, and manage information in an office. Office automation includes word processing, electronic mail, electronic calendaring and list keeping, electronic drawing of graphs and charts, and access to larger data bases via a pass-through system. A major principle of office automation is that it can relieve the user of much of the routine work involved in office procedures thereby allowing more time for management support, decision making, subject analysis, and developmental work.

The general objectives of office automation at all the institutions include minimizing the human effort required in working with information, making information more accessible, sharing information among all who need to use it, reducing paper work, tieing into larger information systems, and improving the accuracy of information. The institutions are trying to centralize office automation as much as possible; they may allow existing systems to grow where appropriate but have the overriding concern of being able to integrate existing systems into a centralized network.

In general, the university centers support office automation systems and are working toward centralized office automation because centralization makes maintenance contracts and purchasing of supplies more cost effective, allows staff training programs to be developed more readily, creates a more stable office automation environment, and makes integrating with the larger data processing data bases more straightforward and less costly than would be the case with a variety of stand-alone and mini-cluster systems. The use of common systems also facilitates the movement of office workers who are familiar with the automated system and thus incurs far lower training and retraining costs. Office automation systems at Iowa State University and the University of Northern Iowa are campus-wide and include both administrative and academic offices.

The centers may also support decentralized systems for data and word processing where unique, demonstrated needs exist.

Recommendation: Each institution should address its information support needs with respect to its overall operations, administrative philosophy, objectives, and goals. All decisions about information systems should be made so that they are integrated into and complement the given institution's overall mission.

Each institution should give high priority to developing and encouraging centralized information management networks that are broad enough to meet the administrative needs of the entire institution.

Cooperative efforts among the Regent institutions are encouraged and should be expanded where possible to improve information system operations.

Each institution should encourage the managers of its administrative centers to continually address their information management responsibilities and should encourage ways to help the various information areas share the information which they control. Each institution should make certain that its data processing entity is involved with decisions from other on-campus administrative service offices as those decisions affect the data processing network.

Each institution should advocate a philosophy that administrative data processing entities do more than simply process facts; the idea of an information management center with the broadened concept of data processing in a university should be emphasized.

Cost Savings: The potential for cost containment in this area is significant but cannot be estimated reliably. Significant cost containment could occur in the long term.

63. Present Capabilities of Hardware and Software

Discussion: The centers at all three universities use large, mini, and microcomputers to manage information and are working toward integrating these into an information management network. The centers have a general policy of supporting a hierarchical computing network including computers of all sizes. The basic hardware structure is a central processing system with dedicated systems, mini systems, and microcomputers connected to it.

The objective of such support is to provide users with a wide range of possible solutions, ranging from using large, main data base machines, to using minicomputers and dedicated terminals and using personal computers in a network or independently.

However, the emphasis is not on machinery for the sake of machinery, but is on the management of information and the communication of data between and among users' stations. Each application is investigated to determine what kind of hardware will meet the user's needs most efficiently and effectively while also meeting and fitting into the university's needs.

The general approach in developing major new data processing systems is to look first at interactive processing and then to consider batch processing. Interactive processing is used for the majority of applications and batch processing is used for producing reports and in those cases where interactive processing is not necessary.

For data communication, most of the computer terminals are connected in the "local" mode with a small number connected via modems and telecommunications (Bell) lines. The local mode has proved to be the most cost effective by far, but the continual installation of conduit, cabling, etc., is becoming increasingly difficult on all three university campuses. It is hoped that major changes in the telecommunications systems, which should include at minimum built-in data communications for low end users, will make the task of connecting terminals easier, less expensive, and more flexible.

Software selection and development basically follows the same pattern as that for hardware. The general principle is to consider either purchasing or developing software, analyzing how best to use staff resources and how to serve the users best.

The state of technology in all the data processing entities is fairly modern and up-to-date and compares favorably with that found at institutions of comparable size with comparable missions.

A critical point, however, is that state-of-the-art technology today may well be outdated in a short period. Because technology is changing so rapidly, each institution must consider upgrading facilities and must be

aware of the need to expand facilities as the need for computerized information management grows.

Recommendation: To meet future expanding needs, each institution will need to obtain additional technology support including, but not limited to, higher level office automation support, higher level languages, hardware and software productivity assists, and additional computer and network support. When considering changes in their telecommunications systems, the institutions should consider adding and integrating data communications with other communications to achieve a better solution to their data communications needs.

Cost Savings: Specific savings cannot be estimated reliably at this time. Costs for changes to the telecommunications systems at Iowa State University and the University of Iowa, made while new systems are being installed, should be lower than costs for changes made after the systems are installed.

64. Methods for Keeping Abreast of Technology

Discussion: All three universities use some form of investigative or advisory group to keep abreast of innovations in information management. These include administrative computing advisory committees, departmental special projects groups, and liaison groups with users. Some developmental work occurs at the institutional level, but the major efforts in planning and development take place at the departmental level, and the institutions do not directly support centrally funded systems research and development.

The strategy of the university data processing centers is one of continued expansion to meet the growing needs of each university, including the installation of office automation equipment in administrative and academic offices when appropriate, and expansion in on-going campus data processing services.

A primary goal is to make this expansion orderly, and eventually to become large enough and broad enough to be able to provide users with the ability to manage their information at their own level. Tied to this strategy of expansion is a desire to avoid proliferation of data in stand-alone systems when that data should be shared; the strategy here is to avoid data duplication by linking users to a large enough network to meet all of their administrative needs.

Of paramount concern in expansion will be the need to continue cost justification of equipment purchases and staff support. There is, however, some concern that the charge-back/cost-recovery mechanism for funding may inhibit expansion. Thus, services, equipment, and systems that could benefit multiple users on campus are hard to implement because of a lack of a financial base from which they can be developed.

To fulfill this strategy of expansion, the centers will need additional and more diverse staff, additional computing power, more and better equipment, and additional space for staff and for equipment. The centers could also benefit from a change in the way the universities look at funding for the centers; particularly significant here would be some type of central funding for systems research and development.

Recommendation: Each university should take steps toward direct, centrally funded support for systems research and development. This could be most important for future development of these systems.

Cost Savings: Reliable estimates of cost containment are not possible until after the possibilities have been studied.

65. Standards and Documentation

Discussion: Generally, the institutions do not have written institution-wide guidelines, policies, or standing procedures regarding their data processing entities.

The three university data processing centers rely heavily on programming standards for their major programming languages and have been leaders in developing such standards to ensure continuity and compatibility of staff efforts. The standards that the centers use compare well with those used in industry and by other academic institutions. Programming standards are continuously upgraded and modified to keep abreast of new technology and new programming concepts.

System documentation in the three centers is equally as important as programming standards, and all three provide full system documentation that is well recognized and accepted by industry and by other academic institutions. Documentation in most cases consists of booklets and notebooks that provide system overviews and histories along with programs, maps, and file listings. In some cases, automated documentation systems exist to help programmers develop uniform documentation with minimal effort.

Recommendation: Each institution should establish institution-wide guidelines for information management and disbursement. These policy guidelines should be documented in the institution's general operations policies and procedures document.

Cost Savings: Potential savings resulting from this recommendation cannot be estimated reliably; however, avoiding data duplication, providing accurate data, providing timely data, etc. could help significantly to contain future costs.

66. Institutional Interaction in Data Processing

The directors of the three university administrative data processing entities hold many phone conversations and meet frequently to discuss directions of data processing at their respective universities, to review upcoming changes, to consider sharing in studying and implementing new concepts and systems, to review personnel needs and strategies, and to help

keep each other abreast of rapidly occurring technology changes. Data processing staff members at the universities converse on the phone and meet when appropriate to share systems concepts and innovations that may have application across the universities.

All of the institutions share their data processing needs and considerations in other ways. An example is the support in terms of knowledge and time that one of the universities provided to the Iowa Braille and Sight Saving School and Iowa School for the Deaf in their recent considerations of technology needs.

Recommendation: The institutions should share system concepts, acquisitions, and implementation where appropriate while considering and fulfilling the unique missions, objectives, and administrative philosophies of each institution. In addition, additional efforts should be made to achieve a greater interface within the institutions among administrative, academic and library computing centers.

Cost Savings: No reliable estimate of savings resulting from such a policy is possible. For the long term, however, cost containment could be significant.

67. Productivity and Staffing

Discussion: At the highest level of administration, the universities enhance productivity by analyzing how best to use the total resources of the institution, including facilities, staff, equipment, and funds. The basic principle is to examine every alternative to discover the most effective solution. For example, all requests for additional staffing are reviewed to determine if the need can be met better through automation or alternative technology, thus keeping staff numbers as low as possible.

The consensus among the directors of the three university data processing centers is that staff is the most important resource that each center has.

Because staff members are the heart of the data processing centers, any loss of experienced personnel is a loss to the university as a whole. Even though standards and documentation provide continuity, experienced personnel are reservoirs of specialized information that cannot be replaced easily. In this context, each center does as much as it can to develop and retain staff members.

Because data processing exists in a rapidly changing environment with many opportunities available to competent personnel, the data processing directors feel a need to develop special approaches to hiring and to job tracking. The importance of non-salary inducements is recognized as is the value of providing opportunities for work with sophisticated, state-of-the-art equipment. Leeway to manage people in ways that may not reflect the methods most common throughout the university as a whole may be needed. Perhaps most important here are more frequent job classification reviews and more frequent salary reviews.

The university administrative data processing entities have worked to improve university-wide productivity by keeping the response time at users' terminals to a minimum, thus ensuring that users can perform their tasks more effectively. Additionally, the centers dedicate their computers to interactive computing during the day and to batch processing during the second and third shifts; this helps keep costs low while using the machinery most effectively. This type of task dedication also helps to ensure that users will have the output from batch processing jobs at the beginning of each work day.

To further help increase university-wide productivity, the centers have been exploring and implementing some form of user service center (referred to in industry as an Information Center). Under this concept, the centers allow user access to equipment that is not available campus-wide. The users then can perform certain kinds of data processing and office automation tasks that normally would be closed to them.

Internally, the centers constantly review, analyze, and implement various productivity concepts, hardware, and software packages. Standards and documentation are good examples of things that the centers have done to enhance internal productivity. Other examples are such things as Mark IV, Easytrieve, PRO/grammar, UFO (User Files On-line), TIS (Total Information System), and COBOL generators. All purchases of hardware and software are subject to normal purchasing procedures, including the standard bidding process. Here again, the primary concern is to effect the least costly and most fitting approach.

An additional need is for continued staff growth. The staffs at the three centers are small compared to those of other institutions of comparable size and mission. Productivity of the university computing centers is commendable; the universities manage twice the programs with one-third of the staff used in the private sector. The centers can point with pride to high degrees of efficiency in staff use, but a failure to grow in numbers and in staff diversity has the potential to erode the centers' effectiveness. With staff growth goes the need for additional space designed for the unique needs of the administrative data processing entities, including organizing work areas around the team concept and establishing new service areas such as the user service center, education rooms, and a library.

Recommendation: Each university should review hiring, promotion, and pay policies with an eye towards retaining experienced personnel who have broad opportunities in a competitive environment. Each institution should also review and respond to the dynamically changing space needs of its administrative data processing entity.

Cost Savings: Direct cost savings will not necessarily result from implementing this recommendation. Implementing of either or both, however, would enhance working conditions and employee attitude thereby increasing productivity and helping to contain costs.

68. Electronic Mail

Discussion: Electronic mail is the distribution of messages to computer addresses (mail boxes) for storage. An addressee can call his/her mailbox and obtain the message. An electronic mail system commonly uses a terminal with a communications module to interface with the data communication system (which may or may not be the telephone system) in order to obtain messages from the mailbox or send messages to one or more mailboxes. A "voice store and forward" system is an electronic mail system using voice as the communication medium rather than alphanumerics. The voice message is digitized and then stored and processed by the computer as in an electronic mail system.

The basic benefit of electronic mail is in savings of time for both professional and secretarial staff. Specific benefits include the delivery of messages even when the addressee is absent from the office, the delivery of messages to many addresses with one call, the storage and recall of messages, efficient scheduling of meetings, and access to messages by an addressee even when traveling. Additional benefits of the "voice store and forward" system include reductions in the time necessary for entry of a message into the system and the increased ease of entering messages without the necessity of typing.

A critical mass requirement must be met in order for an electronic mail system to operate effectively. There must be a community of users generating a sufficient number of messages that users will check their mailboxes frequently. The Regent universities and the Board Office presently communicate with several user communities on a national level. The use of electronic mail could improve efficiency in communications among university administrative offices, departmental personnel, students and faculty, and the Board Office. Responses to inquiries can be shared and coordinated readily.

It is expected that the consultant's study on telecommunications will also provide recommendations concerning electronic mail usage and facilities.

Recommendation: The Regent institutions should continue to add electronic mail addresses where terminals exist and terminals as needed, for potentially high users in each common community based on cost-benefit analysis justification. Voice mail should be considered for the procurement of any new communications (telephone) system. Each institution should devise a model (design plan) for eventual electronic mail operations including on-campus, in-state, and national communications. The plan should consider general purpose versus secure communications and the appropriate balance of voice and alpha numeric means of communication. A basic need is to establish the high level switch to accommodate most on-campus electronic mail and to serve as a basis for building local or specialized systems, if necessary.

Cost Savings: Benefits in terms of improved efficiency and effectiveness are expected to vary widely from one application to another. The major benefits for either electronic mail or voice store and forward systems are in improved productivity and communication. A quantitative determination of dollar value of benefits is beyond the scope of this study. However, studies comparing voice mail with conventionally typed mail have indicated a cost per message of $1.69 for typed mail compared with $.58 to $1.27 for voice mail (with the cost per message decreasing with an increase in number of users). Other studies have estimated that electronic mail messages may be sent for approximately half the cost of conventional inter-office memos and for significantly less than the total cost of telephone calls (including considerations of staff time and needs for return calls).

It is estimated that these efficiency improvements could range from .1 to 1.1 percent of all payroll costs. The improvements could not be achieved without new telephone systems. The first new system is scheduled for Iowa State University where efficiency improvements of $700,000 may be achieved in the first year of operation.

69. Computer Operations

Discussion: In general, the committee finds that the various ADP computer centers are operating effectively and efficiently, especially when compared to other educational institutions and private enterprises. While technological advances in computer and communications hardware and software have opened many new opportunities for further efficiencies, it is believed that these efficiencies are better pursued by each institution's ADP center, and not through any move towards a centralized, interinstitutional "computing utility." The committee has reviewed the quantifiable and non-quantifiable aspects of both approaches. Experience shows both successful and non-successful computer centralization projects. However, it is believed that further consideration of such a "computing utility" is without merit and could, in fact, be detrimental to continued technical staff stability at the centers. Estimates of the financial impact of a centralized utility vary from significant savings to significant losses per year. One common realization of both impact projections, however, is that certain non-quantifiable issues could overwhelm even the most optimistic of projections for such a centralization effort; among these are:

- A change of direction with regard to the mission of the utility (or the ADP center which would incorporate the utility);
- an additional level of bureaucracy;
- security and confidentiality of information; and
- priority setting.

Recommendation: The committee recommends that each institution should individually continue to pursue operational efficiencies in computer operations through the accelerated investigation of new software and hardware technologies. This diversity of approach is in itself a healthy direction for the ADP centers as long as the various solutions and methodologies continue to be shared among the centers. A review of greater interinstitutional interfaces is in order, however.

Cost Savings: Rapidly changing computing, communications, and information systems technology and vastly changing university needs make it impossible to predict the overall potential savings of this recommendation.

70. Telecommunications Project

Discussion: There is a need for the Regent institutions to consider modernizing their communications (telephone) system and to consider integration of their voice, data, computer graphics and video communications.

The communications industry is undergoing rapid change with respect to technology, available suppliers and governmental regulation. The AT&T divestiture and deregulation of certain aspects of the communication industry are opening up opportunities for other suppliers. These suppliers have a variety of capabilities with respect to switch gear, cabling and terminal instruments.

Beginning in 1983, Iowa State University and the University of Iowa engaged consulting service to examine the voice communications needs on respective campus locations. This step was advisable because of the rapid changes in the voice communications market and significant increases in the price structure of existing voice communications.

Iowa State University

The consulting firm, Telecommunications International, Inc., of Denver, Colorado, has been engaged to conduct a three-phase project consisting of (1) assessment and design, (2) specifications and evaluation and (3) installation. The first phase has been completed with a recommendation for installation of a new system. The second phase is nearing completion; the telephone system must be installed in the Mechanical Engineering Building to ensure operation of the building in the summer of 1985.

University of Iowa

The institution is engaged in a process similar to that being conducted by Iowa State University. The specifications for the study are similar to those for the other two projects but include unique requirements for the University Hospital and a review of the existing university plan including the use of its broad-band coaxial cable system.

Phase I of the study has not yet been completed for the University of Iowa.

University of Northern Iowa

The University of Northern Iowa has an on-site telephone facility, a Dimension private branch exchange. The system is currently leased from AT&T and managed by the University. The University is exploring the benefits of purchase versus lease.

At all institutions, changes in the telecommunications industry will require a higher degree of management by the institution. Adding management should be carefully reviewed and justified by cost savings.

Recommendation: The voice communication studies should be continued to discover potential cost savings and service enhancements.

Various financing schemes should be explored in depth due to the possible need to purchase or lease/purchase a voice communications system in order to realize the greatest possible savings.

The institutions now leasing telephones (the University of Iowa, Iowa State University, the University of Northern Iowa, and Iowa Braille and Sight Saving School) should continue to investigate the financial feasibility of purchasing telephones. Particular attention should be given to phone lease rates, telephone purchase costs and the design needs of new telecommunications systems.

The institutions should explore alternatives to the voice system for high use data communications. The institutions should review management of the telephone system in light of deregulation.

Cost Savings: Replacing the existing telephone systems at Iowa State and the University of Iowa may avoid cost increases of $10 million over the next ten years.

A financing scheme that takes advantage of the institutions' tax-free status has been considered in calculating cost savings in replacing equipment.

It is also estimated that the cost saving of using dedicated data facilities versus leased telephone lines will be $500,000 to $1,000,000 over ten years.

With regard to phone system management, experience indicates a reduction in phone costs should be the justification for greater managerial control.

STATE BOARD OF REGENTS

BUILDING SPACE--BOARD OF REGENTS INSTITUTIONS

APPENDIX A

(Gross Square Feet From Central Inventory Records, July 1982)

	SUI	ISU	UNI	ISD	IBSSS	TOTAL
General Fund	5,367,938[1/]	5,389,280[2/]	1,957,186	347,884	195,256	13,257,544
Lakeside Laboratory	37,190	--	--	--	--	37,190
Residence System	2,004,047	3,156,036	1,428,753	--	--	6,588,836
Agricultural Exp. Station		816,637	--	--	--	816,637
Tenant Properties	145,960	--	14,592	--	--	160,552
Self-Supporting Space	581,414	139,222	60,874	--	--	781,510
Memorial Union and Ramp		542,488	--	--	--	542,488
University Hospitals	1,331,871[3/]	--	--	--	--	1,331,871
Psychiatric Hospital	98,022	--	--	--	--	98,022
Hospital School	90,966	--	--	--	--	90,966
Oakdale Campus	278,059	--	--	--	--	278,059
TOTAL	9,935,467	10,043,663	3,461,405	347,884	195,256	23,983,675

1/ Will increase by 284,185 GSF through addition of five spaces now under construction.
2/ Will increase by 117,996 GSF through addition of four spaces now under construction.
3/ Will increase by 570,460 GSF through addition of two spaces now under construction.

(Total GSF under construction as of 7/1/82 is 972,641.)

C/28/02

APPENDIX B

STATE BOARD OF REGENTS

APPROVAL

OF

FINAL PLANS AND SPECIFICATIONS

University of Northern Iowa
Name of Institution

Name of Project

Date

I hereby certify that the final plans and specifications for the above named project do not vary significantly from the approved preliminary plans for the project, and have been reviewed and approved by the university's planning, engineering and maintenance departments. It is recommended they be approved.

Assistant Vice President for Facilities — Date

Vice President for Administration & Finance — Date

Executive Secretary, State Board of Regents — Date

Proposed 1-15-84 underlined verbiage is new. TEP/UNI
lc/F1

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