

Approved 2-20-92
Date

MINUTES OF THE House COMMITTEE ON Computers, Communications & Technology

The meeting was called to order by George Dean
Chairperson

12:00 Noon on January 30, 1992 in room 529-S of the Capito

All members were present except:

Representative Patrick - Absent
Representative Pauls - Excused

Committee staff present:

Julian Efird, Research
Diane Duffy, Research
Jim Wilson, Revisor
Donna Stadel, Committee Secretary

Conferees appearing before the committee:

Allen Foster

Others attending: See attached list.

Allan Foster, Senior Auditor, Kansas Financial Information Systems (KFIS) appeared before the committee and reviewed the findings of the Legislative Post Audit Committee (attachment 1).

Lengthy discussion followed regarding who was running the project, contract amendments and why they were needed (page 21); confusion of original contract and standard procedures for department involving an attorney's opinion. It appears the original contract was not detailed or clear in specifications; however, the involvement of an attorney would be only to the extent of whether the contract contained proper wording to make document legal as opposed to it being good/bad in terms of getting a complete system which would accommodate departmental needs.

The committee asked about the usage of manpower hours worked by Peat Marwick at \$125 per hour, how productive they were and problems involved in contracting for specific number of hours rather than for a completed job within an agreed upon time frame. Also discussed were the estimated 32,000 man hours worked by state employees.

Committee was informed all core versions of software were done in a timely manner by Peat Marwick and appropriate man hours for implementation and modification of support were provided. It was felt, the state was at fault in failing to write a contract defining the product they wanted and expected.

The committee inquired about preventative measures to avoid this kind of problem in the future. Mr. Foster pointed out the requirement for specifications is in Policy and Procedure Manual and clearly defines there should be specifications; also if an amendment has to be made to an RFT that significantly changes the scope of request for proposal, new specifications must be written. If department had followed policies and procedures, the system would have worked fine. This leaves the question of whether you would want to give the requirement more power by making it statutory rather than policy, thereby a violation of the law.

CONTINUATION SHEET

MINUTES OF THE House COMMITTEE ON Computers, Communication & Technology,
room 529-S, Statehouse, at 12 Noon ~~xxxx/xxxx~~ January 30, 1992

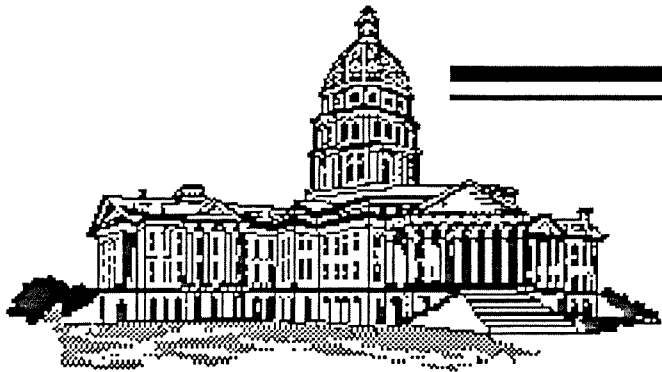
The original contract was signed by the steering committee comprised of the Director of DISC, Director of Purchases and Director of Accounts and Reports and the committee basically made all the decisions on the purchase. It was pointed out, Post Audit did a very thorough audit on a Department of Revenue project that had very excellent specifications on the SDM70 model, but did not guarantee the success of that project. It was lack of ability to evaluate and accept deliverables by the managers that was problem. Mr. Foster directed the committee to page 35 of the report where a list of recommendations and ways to avoid this from happening again.

Secretary Cobler has asked DISC to put together policies and procedures, including these recommendations. Up to now there has been no statutory or regulation requiring DISC or anyone else to monitor the process. The question of assuring that policies and procedures will be implemented was discussed and the question raised whether it be proper to put them in the statutes. Staff's response was you could specify in great detail of the procedure you want to follow and to some extent that was done with regard to one particular service. Those statutes were changed although some of that has been modified since then, but you do obtain a certain rigidity by doing it that way; i.e., rules and regulation, force and effect of law, the policy and procedure manual referred to is essential published document of procedure they followed; but, yes these could be placed in the statute.

Chairman Dean asked Jim Wilson, if he would draft something which would incorporate these procedures and the committee will examine further to determine if a bill might be introduced.

Also suggested to be part of the regulation or policy was the idea of allowing/mandating DISC to stop the project if policy and procedures are not followed.

The meeting adjourned at 1:20 p.m., until February 4.



PERFORMANCE AUDIT REPORT

Examining Problems Implementing the Kansas Financial Information Systems (KFIS)

A Report to the Legislative Post Audit Committee
By the Legislative Division of Post Audit
State of Kansas
January 1992

92-36

1/30/92
Attachment 1

Legislative Post Audit Committee

Legislative Division of Post Audit

THE LEGISLATIVE POST Audit Committee and its audit agency, the Legislative Division of Post Audit, are the audit arm of Kansas government. The programs and activities of State government now cost about \$5 billion a year. As legislators and administrators try increasingly to allocate tax dollars effectively and make government work more efficiently, they need information to evaluate the work of governmental agencies. The audit work performed by Legislative Post Audit helps provide that information.

We conduct our audit work in accordance with applicable government auditing standards set forth by the U.S. General Accounting Office. These standards pertain to the auditor's professional qualifications, the quality of the audit work, and the characteristics of professional and meaningful reports. The standards also have been endorsed by the American Institute of Certified Public Accountants and adopted by the Legislative Post Audit Committee.

The Legislative Post Audit Committee is a bipartisan committee comprising five senators and five representatives. Of the Senate members, three are appointed by the President of the Senate and two are appointed by the Senate Minority Leader. Of the Representatives, three are appointed by the Speaker of the House and two are appointed by the Minority Leader.

Audits are performed at the direction of the Legislative Post Audit Committee. Legislators or

committees should make their requests for performance audits through the Chairman or any other member of the Committee. Copies of all completed performance audits are available from the Division's office.

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PERFORMANCE AUDIT REPORT

EXAMINING PROBLEMS IMPLEMENTING THE KANSAS FINANCIAL INFORMATION SYSTEMS (KFIS)

OBTAINING AUDIT INFORMATION

This audit was conducted by Allan Foster, Senior Auditor, and Cindy Denton, and Tom Vittitow, Auditors, of the Division's staff. If you need any additional information about the audit's findings, please contact Mr. Foster at the Division's office.

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EXAMINING PROBLEMS IMPLEMENTING THE KANSAS FINANCIAL INFORMATION SYSTEMS (KFIS)

Summary of Legislative Post Audit's Findings

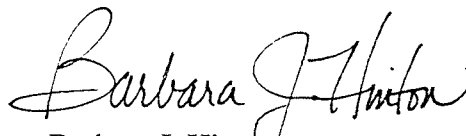
What factors contributed to the State's inability to complete the Kansas Financial Information Systems on time and on budget? The most important factor was that the Department of Administration did not conduct a needs analysis before it purchased the software programs. This lack of planning led to most of the project's problems. Other significant factors were: the changes that were needed or requested in the new programs were more than the Department or the consultant had anticipated; the Department overestimated the expertise and availability of State employees assigned to the project; the Department underestimated the processing costs of the new accounting system; and the contract was periodically revised, adding expense and relieving the consultant from responsibility for supplying a completed product.

Was it to the State's advantage to use the procurement negotiating process for this project? The procurement negotiating process is designed to give agencies flexibility in contracting for technical products and services. The State did not benefit from using this process in this case because the Department failed to follow the basic requirements of the process. Most significantly, the Department did not prepare specifications for the project because it had not clearly identified what it wanted the system to do.

What options does the Department have for implementing the Kansas Financial Information Systems project? The Department can either complete the new personnel/payroll system or correct the problems with the current system. Before deciding, the Department must first determine whether the new system will meet its needs and must consider the cost implications of the various options. The decision about completing the purchasing system should be based on the operating costs of the system and how close it is to being completed.

How can the State help minimize recurring problems in the development of its major computer systems? Problems can be minimized by following basic management practices such as proper planning, strong project management, and the commitment of sufficient resources throughout the project. The State needs a central agency, probably the Division of Information Systems and Communications, to take responsibility for ensuring that such practices are followed.

This report includes several recommendation for improving the development practices for large computer systems. We would be happy to discuss these recommendations or any other items in the report with any legislative committees, individual legislators, or other State officials.



Barbara J. Hinton
Legislative Post Auditor

Examining Problems Implementing the Kansas Financial Information Systems (KFIS)

In fiscal year 1988, the Department of Administration decided to purchase automated purchasing software. It later contracted with Peat Marwick and Main to provide four individual but integrated software systems for the State's accounting, personnel/payroll, and purchasing systems. At least until mid-fiscal year 1990, the Department thought the new systems could be installed without an increase in appropriations. It planned to use existing staff and the moneys appropriated to pay for the Unisys computer (that obligation was being paid off). Department officials later admitted that these assumptions were unrealistic.

Currently, the new accounting system is the only one of the four systems to be running, and its operating costs are much higher than expected. In testimony to the House Committee on Computers, Communication, and Technology, the Acting Secretary of Administration said the prognosis for completing the other systems' did not look good, and would be much more costly than expected.

Legislative concerns were raised at the time that there was no central management of the computer systems' development, especially by the Department's Division of Information Systems and Communications. Our office also has pointed out in previous performance audits that State agencies continue to experience very similar problems in developing major computer systems. This audit addresses the following questions:

- 1. What factors contributed to the State's inability to complete the Kansas Financial Information Systems on time and on budget?**
- 2. Was it to the State's advantage to use the procurement negotiating process for this project?**
- 3. What options does the Department have for implementing the Kansas Financial Information Systems project?**
- 4. How can the State help minimize recurring problems in the development of its major computer systems?**

To answer these questions we reviewed the files of the Kansas Financial Information Systems project and interviewed many people who were involved in its management, such as the Department project manager, the members of a Department "steering committee" who helped make major project decisions, project managers from the two consulting firms that worked on the project, and some of the lower-level managers. We also surveyed most of the State employees who worked on the project, and surveyed a sample of users of the new accounting system in a variety of agencies. In addition, we reviewed the laws and policies concerning the purchase of

computer systems and checked the Department's compliance with these policies in the purchase of this system.

To determine ways to help minimize problems with computer development we surveyed and interviewed State employees who have experience in managing such projects, interviewed computer officials in surrounding states, and other people involved in computer systems development. We also reviewed the laws and policies concerning the role in the Division of Information Services and Communication. In conducting this audit, we followed all applicable government auditing standards set forth by the U.S. General Accounting Office.

In general, we found that there were many factors contributing to the inability to complete the Kansas Financial Information Systems. Some of those were that the Department did not adequately plan for the project, the software the Department purchased required many more modifications than expected, the Department significantly overestimated the availability and expertise of its staff, and the Department relieved the contractor of its responsibility for providing a completed product. Using the procurement negotiating process for this project was not to the State's advantage because the Department of Administration did not follow some of the basic requirements of the process.

We found that the Department has several options for completing the Kansas Financial Information Systems. The recent decision to upgrade the Unisys computer will not solve the problems with the current personnel/payroll system. To address the problems with the system, the Department could continue to patch the current system, rewrite its current system, or complete the new system. However, whatever decision is made needs to be made solely on a thorough analysis of the Department's needs and the cost implications of the available options. The decision about completing the purchasing system should be based on the Department's needs for the system and determination of how close the new system is to being completed. The State can help minimize recurring computer systems development problems by following some basic management steps to improve the planning and management of those systems. In addition, an entity of State government, probably the Division of Information Services and Communications, should take a stronger role in monitoring systems development.

Background of the Kansas Financial Information Systems Project

In 1987 and 1988, the Kansas Legislature appropriated \$372,000 to the Department of Administration to buy an automated purchasing system. The Department wanted a system that would do such things as track Statewide purchasing data, automate vendor information, and identify purchases State agencies made under their delegated purchasing authority.

At the time, the Department also was considering replacing its accounting and personnel/payroll systems. These two systems had been operating on the Department's Unisys mainframe computer since 1979 and 1981, respectively, and were considered to be antiquated. Department officials indicated that the accounting system lacked the basic design capabilities needed to meet present-day accounting standards, that changes had become increasingly complex to make, and that the system could not produce financial reports. The personnel/payroll system was poorly designed and poorly documented. It required constant attention by computer programmers, was unreliable, and could not produce the management reports the Department wanted. In fiscal year 1989, the Division of Personnel Services had received legislative approval to spend \$350,000 for a new personnel software package.

In addition, the Department was considering eliminating its Unisys computer. The Unisys computer was old, needed frequent maintenance, and had not been upgraded for a number of years. In addition, it was not compatible with the Department's IBM mainframe computer, and the Department needed separate staff to write and maintain programs for both computers. The Unisys computer would be paid off in December 1991, and according to Department officials, the Department ultimately planned to have all the State's central processing activities handled on the IBM-compatible computer, eliminating the Unisys computer altogether.

In April 1988, the Division of Purchases Requested Proposals for an Automated Purchasing System

During 1987 and 1988, the Division evaluated its computing needs, reviewed software packages, and visited other states that had already automated their purchasing activities. The Division developed specifications for the automated purchasing system it wanted, and issued a request for proposals in April 1988. The purchasing system was to be operated on the Department's IBM computer.

With the approval of then Secretary of Administration Ed Flentje, a procurement negotiating committee was appointed to evaluate the proposals and select the vendor with the most advantageous proposal for the State. That committee comprised the Directors of Purchases, Information Systems and Communications, and Accounts and Reports.

While the request for proposals was out, several prospective bidders notified the State that buying individual software packages was ill-advised and substantially more expensive than buying a set of packages designed to be integrated with one another. Vendors also suggested that, for the sake of efficiency, the integrated systems should all be run on the same computer.

The Department's Procurement Negotiating Committee Decided to Acquire a Fully Integrated Accounting, Personnel/Payroll, and Purchasing System

Within three weeks after the initial request for proposals for an automated purchasing system was sent out, the Department's procurement negotiating committee decided the Department should acquire an integrated financial information system, to be operated on its IBM mainframe computer. That system would include new purchasing, accounting, and personnel/payroll systems.

According to Department officials, the objectives of an integrated Kansas Financial Information Systems project were as follows:

- minimize the need for the inefficient programming that had to occur between the Unisys and IBM-compatible computers
- make the Department's central processing software easier to maintain (because it would be well documented and fully supported by the vendor)
- give the Department access to new software releases, which could help it meet both its long-term and short-term needs.
- make the data in the computer easier to access
- address future user needs (these enhancements could include cost allocations, labor distribution, benefits administration, and on-line requisitioning)
- reduce the number of people who would have to handle each transaction

The procurement negotiating committee amended the outstanding request for proposals to include the new integrated systems. Committee members decided not to develop a new request for proposals with specifications for the integrated system. Instead, a one-page addendum requesting proposals on an integrated purchasing, accounting, and personnel/payroll system was added to the initial request for proposals, and was sent to potential bidders.

The Firm of Peat Marwick and Main Was Chosen For the Project

Four consulting firms submitted proposals for the integrated system. Peat Marwick and Main was the only firm given final consideration. Its proposal included four packaged software systems: three developed by Peat Marwick and Main, and a personnel/payroll software package developed by Integral Systems, Inc. Peat Marwick and Main had successfully integrated this personnel/payroll package with its software before.

Department officials said that Peat Marwick and Main was selected for several reasons: it appeared to the officials that the firm's software was superior, the firm had much greater expertise in developing and installing software, and it had experience with successfully developing similar systems in 10 other states. None of the other vendors had developed software for a state government.

The Kansas Financial Information Systems (KFIS), as proposed, would include four fully integrated systems. The four systems the Department purchased from Peat Marwick and Main are described briefly below:

Statewide Accounting and Reporting System (STARS). This system was designed to replace and update the State's existing central accounting system (CASK). Among other things, it would expand the number of object codes available for reporting financial transactions, provide for project accounting, and accommodate electronic funds transfers.

Fixed Asset Accounting Control System (FAACS). This system would automate the State's manual fixed asset control system. It was designed to work with the new accounting system (STARS) to bring the State into compliance with generally accepted accounting principles. It would provide for a listing of the items and cost of the State's inventory. The State's lack of compliance with generally accepted accounting principles has been viewed as a negative factor by firms that rate State-issued bonds.

Kansas Automated Human Resource System (KAHRS). This system was designed to replace the State's existing personnel and payroll system (KIPPS). It was expected to give the State a reliable system for handling payroll, and would allow the State to provide for dependent-care calculations and generate personnel resource cost projections and management reports.

Advanced Purchasing and Inventory Control System (ADPICS). This system would be the State's first automated purchasing system, replacing a manual one. It was envisioned that this system would reduce the amount of time required to make a purchase, allow the Division to be more responsive to agency needs, and maintain more detailed information about State agencies' purchases to obtain better pricing from vendors.

The flow chart on the following page shows the interaction of the four individual systems.

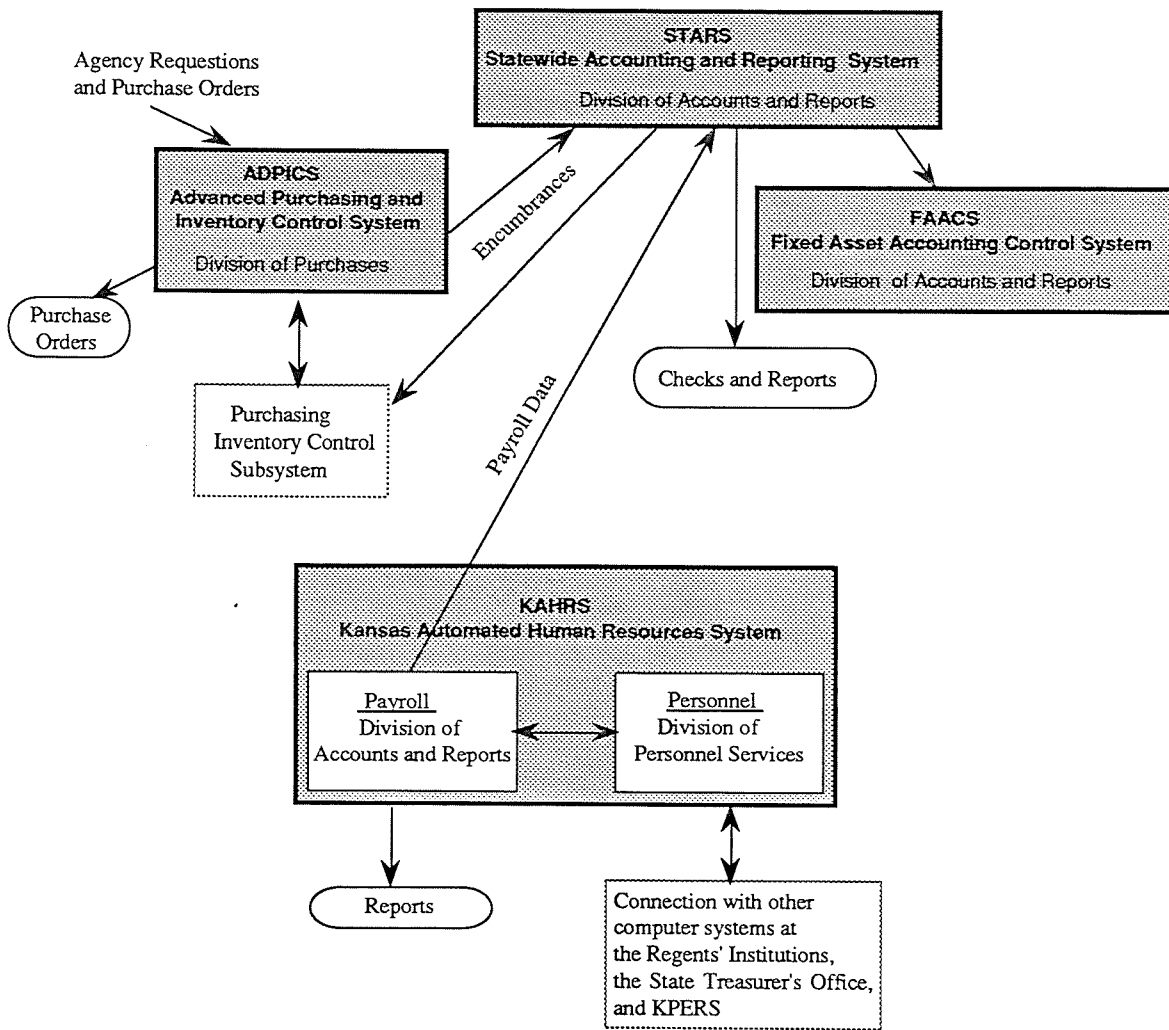
The proposal specified that Peat Marwick and Main and the Department would share responsibilities for implementing the system. The firm would do a detailed analysis of the system requirements and would modify and install its software packages, and Integral Systems would install its personnel/payroll package. Peat Marwick and Main would specifically be responsible for changes or additions to the new software, and would provide overall project management support and integration activities for all four software packages.

The Department would provide a project manager, four programmers, nine staff from functional areas such as the payroll, personnel, and accounts and reports, and an unspecified number of people to complete the project documentation and conduct training. The Department also would be responsible for writing the programs to connect the new systems to the State's existing system.

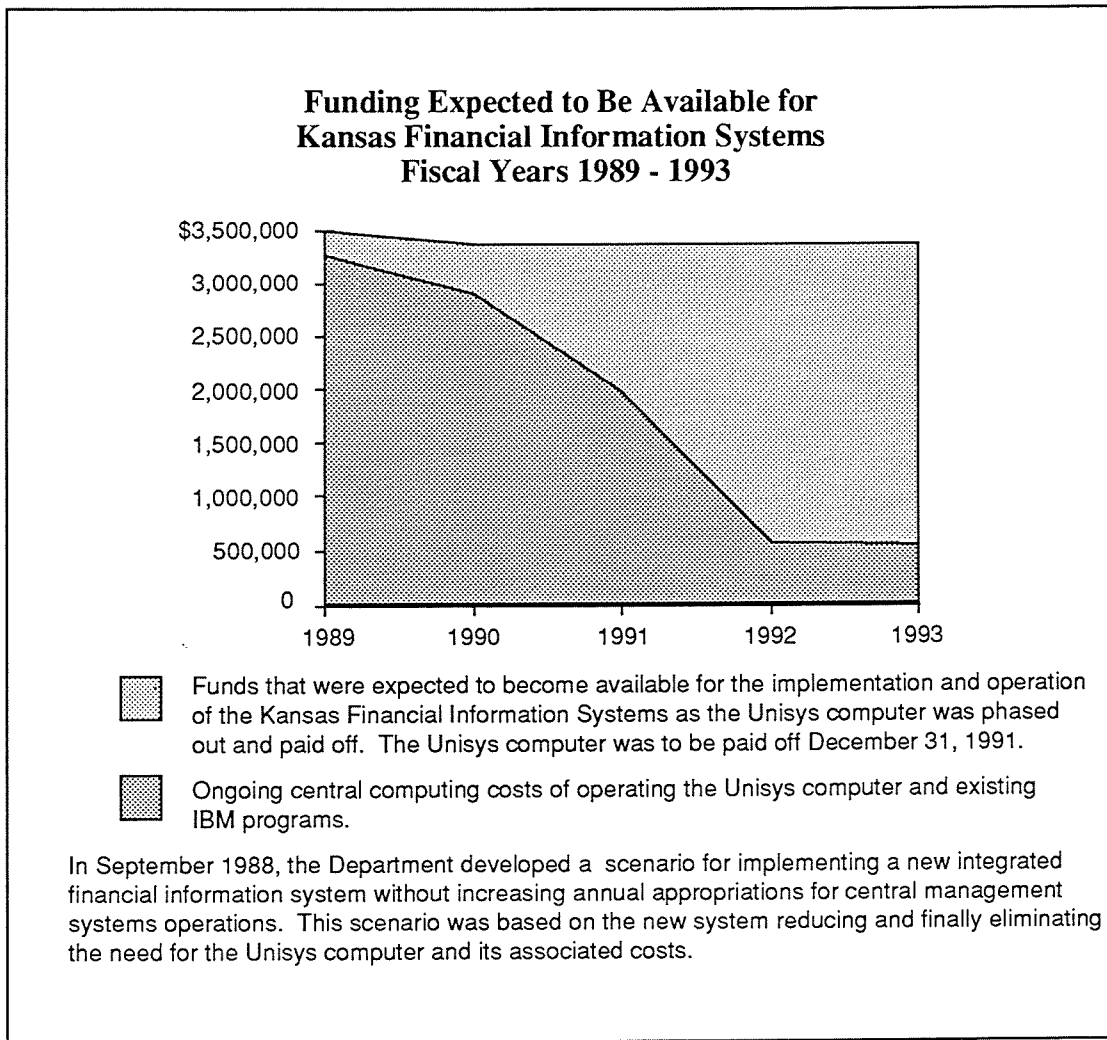
KFIS

KANSAS FINANCIAL INFORMATION SYSTEMS

This diagram shows the four individual systems of the Kansas Financial Information Systems and how they were intended to interact. The arrows show the flow of information between each system and its products. Information can be freely shared between systems, which eliminates the need to enter information more than once.



The Department intended to pay for the new system with the “savings” generated by paying off and subsequently eliminating the Unisys computer. The Department signed a contract with Peat Marwick and Main in November 1988 for \$3.7 million. Department officials projected the entire project could be funded within existing appropriations. The reason: by phasing out the Unisys, the money spent on hardware and maintenance could be spent on the new system. If the level of appropriation remained constant, the “savings” generated over the next five years would cover the cost of the new systems. These projections are depicted in the accompanying chart.



Because Department officials knew the costs of the new systems incurred in the early years of the project would be greater than the savings generated in those years, they planned to finance a portion of those costs and pay them off with the savings generated in the later years.

Although the Major Systems Were Expected To Be Completed In 1989, 1990, and 1991, Those Deadlines Were Extended a Number of Times

The original contract the Department of Administration signed with Peat Marwick and Main in November 1988 specified completion dates for each computer software system. Those completion dates were later revised through a number of contract amendments. The following table shows the original and revised completion dates.

<u>Computer System</u>	<u>Original Schedule</u>	<u>Revised Due Dates, With Dates of Revision as of:</u>			
	<u>November 1988</u>	<u>July 1989</u>	<u>August 1989</u>	<u>May 1990</u>	<u>August 1990</u>
Payroll/Personnel	July 1989	Oct. 1990	Feb. 1991	no change	Mar. 1991
Accounting	July 1990	Feb. 1990	no change	April 1990 (a)	In operation
Purchasing	July 1991	no change	no change	no change	no change
Fixed Assets	June 1992	July 1991	unspecified (b)	—	—

(a) This change was made retroactively. The accounting system was completed and put into operation in April 1990.

(b) To help pay for other work, the Department had the consultant transfer the hours allocated to the fixed asset system to the accounting system.

As the table shows, the original schedule called for the personnel/payroll system to be completed within about eight months, or by July 1989. According to the project manager, it was important to complete this system first so the Department could eliminate the old personnel/payroll system (KIPPS) on the Unisys computer the largest system operating on that computer. When the personnel/payroll system was no longer being operated on the Unisys computer, the Department had considered contracting with a vendor to operate the remaining programs until the new systems were completed. Funding for the project depended on eliminating the Unisys computer as soon as possible.

The new personnel/payroll system was not the first to be completed, as the Department had planned. Instead, the new accounting system was put into operation in April 1990, on the IBM mainframe computer. According to the project manager, after the accounting system was completed, the Department and firm refocused their efforts on the new personnel/payroll system, but by September 1990 it became clear that this system could not be completed by February 1991, as planned. According to then-Secretary of Administration Shelby Smith, delays after that date would add almost \$150,000 a month to the Department's costs, because the Department would have to continue operating the Unisys computer beyond that time.

In September 1990, Peat Marwick and Main sent a letter to the Department's project manager stating that it would begin to transfer responsibilities for the personnel/payroll system to the State. The reason the officials gave for their decision was that the Department had failed to solve long-standing problems with the project. It indicated that the firm's remaining involvement with the project would be limited to completing the purchasing system and finalizing the accounting system.

Work on the Project Was Halted in Late November 1990, Primarily Because of Significant Cost Overruns

In October 1990, the project manager instructed the consultants to prepare to close the project down because the Department could not commit the money and people needed to complete it. In a November 1990 memorandum to the Director of the Budget, the Secretary noted that the costs for the project had escalated significantly. He indicated that system implementation and data processing cost estimates exceeded projected budgets for fiscal year 1991 by \$1.7 million, and for fiscal year 1992 by \$3.6 million.

Work on the project subsequently was halted on November 30, 1990.

When the Secretary of Administration shut the project down, three of the four integrated computer systems had not yet been completed. At that time, only the accounting system was complete. Department employees familiar with the purchasing system also told us that system was 85 percent complete. They also said that the fixed asset system had not yet been started, but that they planned to implement it in conjunction with the accounting system. The project director estimated it would take only about 400 hours to complete this system. At the time this audit was being completed, that work had not been started.

To determine the status of the personnel/payroll system, the Department contracted with Price Waterhouse in January 1991. That firm's report, completed in March 1991, concluded that the required modifications to the new personnel/payroll system were only about 38 percent complete. (The project manager estimated the personnel section was 85 percent complete and the payroll section was 50 percent complete.)

In January 1991, the Department also requested information from the Unisys Corporation on options for updating the State's Unisys computer.

Users Are Generally Satisfied With the New Accounting System (STARS)

We sent surveys to 192 State personnel who use the new accounting system to assess their satisfaction with that system. We received 137 completed surveys for a response rate of 71.4 percent. Generally, the employees who responded were happy with the new accounting system, how it works, the information it provides, and the assistance provided to the users. Based on the survey responses we received, the system appears to provide the information users need, when it is needed, and in the form it is needed, and the system was generally rated easy to use.

Over 30 percent of the respondents rated the system's response time as fast, and slightly more than half rated it as average. Over 80 percent of the respondents said the forms were well designed or very well designed, while slightly less than 70 percent of them rated the system reports as well designed. Of the 88 respondents who had used the previous system, about 45 percent indicated the new system was an improvement over the old system, and another 30 percent said the two systems were about the same. About half the respondents indicated the training they received was good, and another one-third rated the training as average.

When asked what they liked best about the system, the most common responses were about the information the system provided and flexibility of the system. When asked what they liked least about the system, the most common comments were about the system's response time, its inflexibility, and its reports and forms.

To-date, the Department has spent significantly more than the amount originally estimated for the Kansas Financial Information Systems project. The Department's original contract with Peat Marwick and Main was for \$3.7 million. As of the end of fiscal year 1991, however, the Department had spent a total of \$5.1 million in contracted costs for this project. In addition, the Department has paid a great deal for staff time devoted to the project (more than 32,000 hours) and computer processing time. We were unable to determine the extent of those additional costs attributable specifically to this project.

Because approximately \$2.4 million of the cost of Kansas Financial Information Systems was financed, the Department will be paying for the project until fiscal year 1996. Financing costs will add approximately \$526,000 to the cost of the project. At the end of fiscal year 1991, the Department owed about \$2.5 million on the aborted project.

Costs for operating the State's personnel/payroll system also increased significantly because, in October 1991, the Secretary of Administration declared an emergency with the existing payroll system and ordered a new Unisys computer. Because the new personnel/payroll system was never completed, the Department was unable to phase out the Unisys computer as planned. Therefore, the Department is still operating both the IBM-compatible and the Unisys computers.

In appropriating moneys for the Department's central management systems operations for fiscal year 1992, the Legislature specified that no expenditures could be made to upgrade the Unisys processing center unless the Secretary of Administration determined that a disastrous failure of the Unisys processing center was imminent and would likely result if such expenditures were not made in a timely fashion.

On October 15, 1991, the Secretary declared such an emergency and requested the Director of the Division of Information Systems and Communications to take the steps necessary to upgrade the Unisys system to prevent a likely disruption of the Statewide payroll process.

The Department subsequently entered into an agreement with Unisys in early November 1991 to replace and upgrade the State's Unisys mainframe computer. According to a Department official, total direct costs for the new system, including financing charges, will be about \$3.1 million. The table on the following page breaks these figures down, by type of cost.

Department officials told us they thought the total cost of replacing and upgrading the Unisys computer would be offset over the five-year period by a number of other cost savings. The new Unisys computer is much smaller than the old one. As a result, Department officials said, they would be able to consolidate the Department's two computer centers into one space. The savings they cited included savings in rental costs for floor space, in fewer personnel to operate the systems, and in the elimination of lease and maintenance costs for the old system. The Department estimates that these offsetting costs will come to about \$3.5 million over five years.

Costs Associated With Upgrading The Unisys Computer

New computer hardware to replace the existing hardware	\$1,830,792
New operating software	761,250
Professional services (Unisys personnel have contracted to make programming changes to the existing personnel/payroll system's software to make it compatible with the new operating system software. This contract is for time and materials only; if the modifications take longer than estimated, the charges will be greater.)	164,640
Subtotal	\$2,756,682
Less credits and trade-in allowances	<u>(646,902)</u>
Total cost to be financed	\$2,109,780
Total financing charges (financed by the Unisys Corporation over a five-year period)	437,146
Maintenance (over a five-year period)	<u>509,160</u>
Total costs, including interest charges	\$3,056,086

We did not attempt to verify the dollar amount of savings claimed by the Department's staff. However, it is important to note that the Department had expected to realize such cost savings anyway when it integrated its central processing functions and eliminated the Unisys computer. Thus, the cost of upgrading and replacing the Unisys computer must be viewed as additional costs the State will incur because of the Department's inability to implement the Kansas Financial Information Systems project. If the project had been implemented as planned, there would have been no need to have a second computer.

What Factors Contributed to the State's Inability To Complete the Kansas Financial Information Systems On Time and On Budget?

The Department's experiences with the development of the Kansas Financial Information System were aired before the Legislature in early 1991. In a January 1991 presentation to the Senate Ways and Means Committee, former Secretary of Administration Shelby Smith described the delays and cost-overruns the project had experienced. He cited the following primary contributing factors: programming staff lacked the needed technical skills; too many modifications were made, especially in the personnel/payroll system; and the lines of authority and communication were not adequately defined. The former Secretary acknowledged that Department officials were naive to think a project of this magnitude could be completed within the short timeframes originally planned.

In February 1991, then-Acting Secretary of Administration Art Griggs also testified about these delays and cost-overruns before the House Committee on Computers, Communication and Technology. He cited the following additional factors: cost projections were based on a schedule the Department had been unable to meet, computer processing requirements to operate the software were beyond original cost estimates, and a number of erroneous assumptions were made in assessing the project at its outset.

To help assess the factors that may have contributed to the System's delays, overruns, and failures, we reviewed the files of the Kansas Financial Information Systems project and interviewed many people who were involved in its management, including project managers, members of a Department steering committee, and a number of other administrators. We also surveyed most of the State employees who worked on the project.

Many of our findings paralleled the comments made by the former Department Secretaries. In general, we found that the underlying factors contributing to the partial completion of the project and its cost overruns were as follows:

- the Department did not adequately plan for the project, including failing to identify its computer needs in advance
- the software the Department purchased may have required significant modifications, and the Department was unable to manage the major disagreements that arose because of these modifications
- the Department did not manage its staff resources well; it significantly overestimated the availability and expertise of State employees who would be assigned to the project
- the Department relieved the contractor of its responsibility for providing a completed product
- the Department significantly underestimated the processing costs for the accounting system when it came on-line

These and other findings are discussed in more detail in the sections that follow.

The Department of Administration Did Not Adequately Plan for the Project

Initial planning is an essential step in developing or purchasing computer software. Because computer software is so complex, a "system design methodology" is generally used to systematically organize the process of acquiring or developing it. Under a methodology adopted by the State for computer systems (called SDM-70), the first important step is a "system requirements definition." (We reviewed a number of other methodologies; all have this same first step, although they may use slightly different terms.)

This step includes a thorough analysis of the agency's present operations, the reports it currently uses, and its work processes, as well as an assessment of the users' problems, objectives, and requirements for the proposed system. (In many cases, agencies may hire a consultant to perform this step.) The process of clearly defining the agency's needs is required before buying "packaged" software that has already been developed.

The Department did not analyze its computer needs before acquiring the packaged software programs. When the Department's procurement negotiating committee decided to expand the initial request for an automated purchasing system to include a fully integrated accounting, personnel/payroll, and purchasing system, it decided not to conduct an analysis of the Department's or its users' needs before soliciting bids for that new system.

The procurement negotiating committee comprised the Directors of Purchases, Information Systems and Communications, and Accounts and Reports. Committee members stated that they made this decision because they wanted vendors to propose software solutions that did not necessarily replicate existing accounting and payroll methods and procedures, in hopes of finding more cost-effective means of accomplishing those tasks. The former Director of Accounts and Reports told us that he cautioned the committee against acquiring a system without analyzing the Department's needs first.

Further, committee members said, vendors' products were already developed and would not change according to published specifications. They also said that by requesting pricing and documentation of available products, the Department was able to investigate each system thoroughly and to determine the one that best met its needs. Although officials initially defended their decision, they later acknowledged it had been a mistake not to analyze and define their needs before acquiring the system software.

It appeared to us that the Department's decision not to conduct what may have been a time-consuming needs analysis also may have been influenced by the fact that

the Unisys computer was about to be paid off, and Department officials had wanted to eliminate that computer and operate all the State's central processing functions on the IBM computer. Whatever the reason, the Department's actions went against all the available literature regarding the acquisition or development of complex computer software.

Of the 68 State employees we surveyed who had worked on this project, about one-fourth of the 33 employees who responded noted that there had not been enough analysis of the Department's needs done up-front. This was the second most common problem reported by the respondents.

The Department's failure to identify its computer needs in advance had serious implications for the remainder of the planning process. Because the Department did not clearly define what the agency needed, or what it wanted the computer software to be able to do, it either did not or was not able to do the following:

- The Department did not prepare detailed specifications for its request for proposals.* The Division of Purchases' own procurement negotiating policies require that these specifications be prepared, and call this step one of the most critical steps in the process.
- The Department was unable to adequately evaluate vendors' proposals to see how well their software fit the agency's needs.* Department officials told us they evaluated the proposals against each other. However, without knowing what their needs were, they had a limited basis for making an adequate evaluation. As a result, the Department bought major computer software packages and signed a contract for \$3.7 million without knowing whether that software required significant changes or could be successfully adapted to the agency's needs.
- The Department did not write a contract that clearly specified what it expected the vendor to provide.* Again, without knowing what the Department's needs were, or how well the software it purchased would fit those needs, once identified, Department officials had a limited basis for contractually specifying what Peat Marwick and Main should provide. As a result, the Department may have little recourse against the firm for any failures to complete the project.
- The Department had no way of knowing how much work State employees would be required to do, if their skills matched those needed on the project, or how much time they would have to spend.* This step was critical because Department officials expected many of these employees to work on the project along with all their other duties. If this project took significantly more of their time than anticipated, other important functions could suffer.

Although the Department's top administrators were involved in planning this project, they apparently did not recognize the potential problems that could be caused by the decisions they made in this early stage of the project.

Once the Project Got Started, The Changes That Were Needed or Requested in the New Software Programs Were Significantly More Than Department Officials or The Vendor Had Anticipated

Without having clearly defined its needs in advance, the Department had no basis for knowing how extensive the modifications or enhancements might be. However, then Secretary of Administration Shelby Smith has said he assumed the "off-the-shelf" programs would meet most the Department's essential needs, that the Department would change its business practices whenever possible to avoid unnecessary changes to the software, and that there would be a willingness among the Department staff to accept change.

In January 1989, Peat Marwick and Main began an assessment of the modifications needed to make the personnel/payroll software fit the Department's needs. Similar work on the accounting package started soon thereafter. This assessment was a joint effort between Peat Marwick and Main and the Department. Project teams consisting of three employees from the firm and up to seven Department employees were formed for each system.

An initial list of modifications for the different systems was not completed until May 1989. At that time, the project teams had identified an estimated 25,000 hours worth of modifications they thought were needed. This figure apparently was much larger than Peat Marwick and Main or the Department had anticipated. We identified at least two reasons why.

The consultants discovered that many legislative mandates regarding payroll in Kansas were more complex than in other states. During this process, Peat Marwick and Main staff apparently determined that many of the State's payroll practices were required by statute. These would include requirements for tracking funding by position rather than

Staff Comments About Problems With Kansas Financial Information Systems Project

We sent surveys to 68 State employees who had worked on the Kansas Financial Information Systems project. We received 33 completed surveys from these employees for a return rate of 48.5 percent. One of the questions we asked the project employees was what problems they observed. Following are some of their comments:

— It was evident from the beginning that the personnel/payroll system was not adequate for the division's needs and that modifications to it would not bring it to adequacy.

— The major problems were a lack of leadership and inability to make decisions, poor project management from the consultants, and lack of technical expertise and knowledge of the "as-delivered" system.

— There was little interest on the part of the State to manage the contract specifications.

— People called to work on the project toward the end had no idea what was going on. Communication between DISC people, Payroll people, Personnel people and the contractor was terrible. There was no teamwork.

— The team concept did not work very well between State staff and the consultants. Rotation of consultant staff interrupted the continuity of the project.

— The plan itself was flawed. We were attempting to use a new data base management system, and a new application language with no experience in either, and we were going to use them on the largest, most complicated system we had.

— The project was run by upper management personnel who were not dedicated to the project and who had no understanding of KIPPS and the desired results.

— We were expecting experienced consultants to lead us through all phases of the project. Instead, we got consultants who were not familiar with the software.

— It became apparent that we were working for Peat Marwick instead of Peat Marwick working for the State.

employee and verifying that agencies have sufficient funds before paychecks can be issued. Although the firm apparently did not expect to have to modify its software program in such areas, those modifications became necessary.

More importantly, Department staff identified many more modifications to the purchased software programs than project management thought were necessary. This was particularly true for the personnel/payroll system. The Department's project manager and the Peat Marwick and Main management staff told us they thought the payroll staff within the Division of Accounts and Reports wanted to modify the software to make the system "look like" the existing personnel/payroll system (KIPPS). Some disagreements appeared to be minor. An example that was cited: the payroll staff wanted to modify the software to change the term "sex" to "gender," because that was the way it was on the old personnel/payroll system (KIPPS) forms.

However, other disagreements were more substantive. For example, the payroll staff wanted to modify the way in which the new system handled certain types of payroll adjustments. When payroll mistakes were made and payroll records needed to be adjusted, the Department's practice had been to record those adjustments in the month in which the mistake was made. The new system recorded those adjustments in the month in which the adjustment was made. Peat Marwick and Main's staff objected to the change because they thought the Department's practice violated Internal Revenue Service regulations.

Because it was clear there would be delays implementing the personnel/payroll system, the Department decided to complete the accounting system first. By May 1989, it had become obvious that the initial July 1989 deadline for the new personnel/payroll system could not be met. As a result, the Department's steering committee decided not to try to complete the personnel/payroll system first, as planned, but instead to complete the new accounting system first. Department officials told us they made this decision because they "wanted to have a success and show some real progress."

This decision had broad implications for the project's financing, because that funding depended on the new personnel/payroll system being completed first and installed on the IBM computer, and the Unisys computer being eliminated.

Disagreements over the modifications needed in the new systems' software continued throughout the project. Between May and July 1989, a team made up of Department and Peat Marwick and Main staff examined all the suggested modifications and identified those they thought were unnecessary or could be delayed until after the system was completed. In July 1989, a list of modifications supposedly was agreed to. This list comprised 99 modifications requiring an estimated 10,800 hours to complete. Some of the major modifications included adding a program to garnish wages (1,000 hours), modifying the way employer contributions were accounted for (420 hours), and modifying the payroll history report (480 hours).

Even after the "final" list of modifications had been agreed to, however, Department employees continued to disagree on the types of changes needed to make the system operate effectively. Staff in the payroll section of the Division of Accounts and Reports apparently continued to find problems with the payroll requirements. They suggested new modifications, and wanted some of the modifications that had already been agreed upon to be done differently.

The former Secretary of Administration, most division directors we interviewed, and the Peat Marwick and Main project managers told us they thought the payroll staff—and especially the Director of Accounts and Reports—were uncoopera-

Federal Agencies Also Have Their Problems With Developing Large Computer Systems

We reviewed a report by the U.S. General Accounting Office that dealt with the Department of the Treasury's efforts to develop a payroll/personnel computer system. In 1984, in an attempt to improve and consolidate the Treasury and IRS payroll and personnel systems, the two agencies adopted a modified version of an Air Force personnel system. That effort went smoothly. However, adding a payroll system to it proved difficult.

1984: Treasury awarded a \$1.2 million contract to Price Waterhouse to modify a Department of the Army payroll system to be integrated with its personnel system.

1985: In September, Treasury awarded a follow-on, \$3.4 million, fixed-price contract to Arthur Young to develop and implement the modified Army system. By October, Treasury determined that the Price Waterhouse design was incomplete and inconsistent with Treasury's requirements. Treasury worked on completing the Price Waterhouse design.

1986: In January, Arthur Young and Company notified Treasury that the conceptual design was still deficient, and requested an additional \$247,000 to correct the design. In August, Treasury agreed to modify the contract and increased the contract price to \$3.7 million. In September, Arthur Young and Company delivered the physical design as its first product. A month later, Treasury notified Arthur Young and Company that the physical design was not acceptable because it did not provide for complete and accurate payroll processing. Treasury also informed the company that several other contract tasks were behind schedule. Arthur Young and Company replied that schedule slippage was the result of additional work required

to correct the deficient logical design provided at the beginning of the contract. In December, Arthur Young requested an additional \$1.5 million.

1987: In January, Treasury rejected the requested increase. In August, Arthur Young made a final proposal to complete the project for \$14 million. In October, Treasury rejected the proposal because of its high price and Arthur Young and Company's failure to make timely and cost-effective progress on the existing contract. Treasury deleted a significant portion of the original requirements, and requested Arthur Young and Company to submit a proposal to complete the only remaining contract requirement—the physical design. Arthur Young and Company threatened to cease performance under the contract if Treasury did not commit to an increase in the contract price. In December, Treasury terminated the contract with Arthur Young and Company for default based on alleged failure to perform under the terms of the contract, and unacceptable deliverables.

1988: In April, a Treasury task force recommended that Treasury convert its payroll and personnel processing to the Department of Agriculture's National Finance Center [NFC]. In July, the Deputy Secretary of the Treasury authorized Treasury to convert its payroll and personnel processing to NFC. That same month, Treasury changed the Arthur Young contract termination from default to convenience of the government. The final negotiated contract price was \$4.6 million.

As this summary shows, the federal government is also plagued by disagreements with contractors, costly mistakes, and unacceptable end products.

tive, even to the point of trying to "sabotage" the new personnel/payroll system. In a memo to the former Secretary, the firm's project manager complained that the payroll staff were quick to complain about the system, but offered no solutions. In contrast, he said, personnel staff were enthusiastic and took the initiative to find solutions.

We interviewed payroll staff who were involved in developing the project and the former Director of Accounts and Reports (the current Secretary of Administration) to determine why they thought so many changes were necessary. They said they saw the new payroll software as a step backwards in usability, and thought it was a very poor fit with the Department's needs. For example, the chief of the payroll section told us the new software was not as automated as the existing payroll system, and would require a significant increase in the amount of manual work the payroll staff would have to perform. The former Director of Accounts and Reports said he thought the software fit only about 20 percent of the Department's needs. Both said they were not trying to be uncooperative, but were trying to point out legitimate problems with the new software.

Payroll staff also complained that they did not know enough about the software to propose solutions. The project manager arranged for a consultant to provide a two-week training session to familiarize the payroll staff with the software. However, the consultant stopped the training after three days, complaining to the project manager that the payroll staff were hostile and abusive.

Disagreements and in-fighting like this continued throughout the development of the system, and contributed significantly to delays in the project's progress. Many disagreements were still unresolved when the project was terminated in November 1990.

On a number of organizational levels, the Department did not effectively deal with these disagreements and modification requests. At the project team level, the personnel/payroll system was essentially leaderless. The Secretary had assigned one person to be the project team leader for both the accounting and personnel/payroll system project teams. However, this individual spent the majority of his time managing the accounting project team, and told us he had little time to devote to the personnel/payroll system. The project manager told us he recognized this problem early on in the project, and asked the Director of Accounts and Reports to assign a separate project team leader for the personnel/payroll system. However, he said, this assignment was not made until August 1990, or very late in the project, and then only after the Secretary of Administration intervened.

At the project manager's level, the manager ended up with no real control over the actions of the division directors. Organizationally, these directors were supposed to report directly to the project manager. In practice, however, they ended up reporting directly to the Secretary of Administration, and bypassing the project manager. As a result, the project manager's authority to effectively deal with problems and make decisions was significantly undermined. The project manager may have contributed to this situation by informing the directors in an early memo that he would be

responsible for managing the day-to-day work of the project and for reporting to the steering committee (which comprised the division directors) on the status of the project. The memo specified that the steering committee had the final responsibility for the project.

Finally, at the top level of the organization the Secretary of Administration ultimately was responsible for ensuring that the division-level infighting was brought to a halt, that the validity of the payroll staff's concerns was assessed, that final decisions were made about modifications to the new personnel/payroll system, and that the project got back on track.

The project manager and the Secretary made a number of attempts to settle these disagreements, but apparently was unable to stop the infighting among his division directors. In addition, we saw no indication that the Secretary or the project manager ever considered whether the payroll staff's concerns about the inadequacies in the new personnel/payroll system software may be valid. One risk of making such a determination at this stage of the project was that the Department would discover it had acquired personnel/payroll software that did not meet its legitimate needs. The Secretary's ability to make a final decision as to which modifications would and would not be made was hampered by the Department's failure to identify its needs before purchasing the software programs. Nevertheless, the issues were never resolved.

The Department Significantly Overestimated the Expertise and Availability of State Employees Who Were Assigned to the Project

As part of its initial contract with Peat, Marwick and Main, the Department agreed to provide a number of staff to work on the Kansas Financial Information Systems project. The Department did not estimate the number of hours State employees would spend on the project, because without clearly defining its needs in advance, it had no basis for knowing the amount of work that would be required, or the skills that would be needed. About one fourth of the project employees who responded to our survey said the Department did not commit enough resources to the project.

Nonetheless, State employees did spend a significant amount of time on the project. Staff from the Division of Accounts and Reports and programmers from the Division of Information Systems and Communications who were assigned to work on the accounting and personnel/payroll systems recorded a total of about 32,000 hours on the project, or the equivalent of more than 15 staff years. Staff who worked on the purchasing system did not record their hours.

A number of staff did not have the expertise or experience needed to effectively carry out the role assigned to them on the project. We noted three major areas of concern. First, the Department selected a project manager who had no experience managing a major computer systems development project, especially one that involved acquiring and implementing major computer software programs, and that cut across all divisions within a major State agency.

Second, almost immediately after the project started, it became obvious the Department could not meet its obligation to help program the modifications to the personnel/payroll or accounting systems. Department staff did not know the CSP language and methodology needed to program the personnel/payroll system, and the Peat Marwick and Main consultants familiar with this system were unavailable. The accounting software package was written in the COBOL language, but the programming staff assigned to the project were not all proficient in that language.

Third, some personnel assigned to the project teams for the accounting and personnel/payroll systems were new employees. Project team members had to have in-depth knowledge of how the Department worked to be able to effectively identify the changes that needed to be made, either in the software or the Department's practices. New employees, no matter how bright, were at a severe disadvantage in this effort.

There were also continual complaints about the availability of staff throughout the project. Part of the problem may have been that the Department had assumed many employees could work on the project part-time while still carrying out their other full-time duties. Another problem was that the project manager had no authority to assign needed staff to the project, or to transfer staff from one system to another, as needed. Each division director supplied the staff to work on that division's particular system.

The consulting firm and the project manager asked that three additional staff from the Division of Accounts and Reports be assigned to assist the understaffed payroll team, but those employees were not provided. Peat Marwick and Main officials also complained to the Secretary of Administration that the Division of Information Systems and Communications had been uncooperative in assigning staff for the project. According to those officials, the Division apparently reassigned other duties to some programmers who initially were assigned full-time to the project. They also reported that the Division repeatedly stalled the project director's attempt to obtain the necessary programming staff.

Because it could not meet the project's staffing needs, the Department contracted with another firm to provide programming services, at a total cost of \$1.8 million. In August 1989, the Department signed a contract with Business Information Technology, Inc., to provide the experienced programming staff the State could not provide for the personnel/payroll system. The cost of the contract was about \$1 million for 9,000 hours of technical support. By the time the project was shut down, the Department had contracted with this firm to provide a total of about 16,000 hours of computer programming services for a total cost of \$1.8 million.

The Contract Was Periodically Revised Because of the Problems Experienced with this Project, and the Department Ultimately Relieved the Firm of Any Responsibility for Completing the Project

The Department amended its contract with Peat Marwick and Main on numerous occasions, generally to provide for additional consulting time and to increase the

firm's compensation for modifications and enhancements to the accounting system. These amendments cost the State an additional \$934,814. These changes are shown in the accompanying chart.

As the chart shows, the first amendment to the Peat Marwick and Main contract increased the firm's compensation because additional consulting time was needed. More importantly, however, the first amendment to the contract let Peat Marwick and Main "off the hook" for completing the project.

Chronological Listing of the Contracts and Their Amendments

<u>Dates</u>	<u>Peat Marwick and Main</u>		<u>Business Information Technology</u>	
	<u>Cost</u>	<u>Purpose</u>	<u>Cost</u>	<u>Purpose</u>
November 1988 Contract	\$3,688,500	begin the development of KFIS		
July 1989 Amendment (a)	\$460,359	limit scope, accommodate the use of a subcontractor, add consulting time		
August 1989 Contract			\$1,035,090	program the personnel/ payroll system
December 1989 Amendment	\$92,750	develop involuntary deductions application for accounting system		
March 1990 Amendment	\$4,500	add consulting time for accounting system		
May 1990 Amendment	\$263,350	add consulting time - State could not staff accounting system		
June 1990 Amendment	\$76,880	develop check sorting function for acct. system		
August 1990 Contract			\$780,000	add consulting time for personnel/payroll system
November 1990 Amendment	\$36,975	project ended - reconcile consultant fees		
November 1990 Amendment			(\$408,333)(b)	project ended - reconcile consultant fees
	<u>\$4,623,314</u>		<u>\$1,406,757</u>	

Total Contract Cost for Both Consultants = \$6,030,071

(a) This amendment includes a \$260,000 reduction in consulting costs to accommodate the use of a subcontractor.

(b) Calculation of this amount includes 1,000 hours worked by Peat Marwick and Main as a subcontractor to Business Information Technology.

An industry official we interviewed told us a software system contract should always specify completed products rather than “time and materials,” to ensure that the buyer gets the finished product it wants. When we reviewed the Department’s initial contract with Peat Marwick and Main, it was not clear whether the contract was for a specified product or for time and materials. Although it appeared to specify certain products that had to be completed, it also specified the hours the firm would work on the project. That first contract did not tie payment to either hours or products, and there was no penalty for non-performance.

However, the first contract amendment clearly changed the agreement to a contract for a specified number of hours worked, rather than a completed project. By making this change, the Department may have eliminated the State’s recourse against the firm for not completing the project.

The Department Significantly Underestimated the Ongoing Processing Costs for the New Accounting System

Only one system—the new accounting system (STARS)—has been put into operation. Early estimates of processing costs for that system were about \$40,000 per month. For the month after it began operation, however, the processing bill was about \$150,000.

Department officials attempted to isolate the reasons for these higher- than-anticipated costs. They reported that system users were printing out more reports than needed, that computer file sizes were too large, and that not enough space had been allocated on the hardware to efficiently run the system’s programs.

The Department also reported it has taken a number of actions to correct these problems. For example, programs were modified to allow them to run faster, unused space was eliminated from the computer files, and unneeded data were purged from the system. In addition, the newly acquired IBM-compatible mainframe computer has increased the system’s operating speed.

For fiscal year 1991, the processing charges for the new accounting system were \$1.4 million, or an average of about \$120,000 a month. For the first six months of fiscal year 1992, these processing charges have averaged about \$72,000 a month. The initial processing costs have been reduced by more than half, but still significantly exceed the early estimates.

Was it to the State's Advantage to Use the Procurement Negotiating Process for This Project?

The negotiated procurement process is allowed by law to give State agencies the flexibility to evaluate the relative abilities of vendors, including their technical or professional expertise. It is not a totally unstructured process; certain requirements are built-in to ensure that agencies request what they need, and receive what they requested.

Using the procurement negotiating process for this project was not to the State's advantage because the Department of Administration did not follow the basic requirements called for to make that process work well. We were unable to evaluate whether that process would have been to the State's advantage if the Department had followed those requirements. Only two of five neighboring states we contacted allowed their state agencies to use a procurement negotiating process. These findings are discussed in more detail in the sections that follow.

The Procurement Negotiating Process Is Designed to Give State Agencies Flexibility in Contracting for Highly Technical Products and Services

K.S.A. 75-37,102 allows the chief administrative officer of a State agency to request that a procurement negotiating committee be formed to obtain services or technical products for the State. This law provides an alternative to procuring products through the competitive sealed-bid process, in which a contract is awarded to the lowest bidder. It gives agencies the opportunity to meet with and evaluate the vendor and its product in a variety of areas. This process was originally authorized in 1987 for the highly technical and fast-changing area of computers and telecommunications.

Under the procurement negotiating process, a request for sealed proposals is prepared and published, and the agency may hold a pre-proposal conference for the interested vendors to ask questions about the request. After the proposals are received, the agency evaluates them and holds further discussions with those vendors whose proposals look most promising. These vendors then are asked to submit their best and final offers. The offers are evaluated and final negotiations are entered into with one or more vendors. The contract is awarded to the vendor with the most advantageous proposal for the State.

In situations where agencies must evaluate the relative abilities of vendors to provide certain products or perform certain tasks, including their degree of technical or professional experience, the procurement negotiating process can provide needed flexibility. The successful firm and terms and conditions of the contract are not made public until after the contract is awarded. This approach helps ensure that competitive pressure is maintained throughout the process.

Certain requirements are built into the negotiating process to ensure that agencies request what they need, and receive what they requested. The Division of Purchases' *Policy and Procedure Manual* specifies the procedures an agency must follow during the negotiated procurement process. Those requirements include the following:

- requests for proposals should contain a statement of the work being required of a prospective contractor. This statement of work forces the agency to identify what it needs, and the elements of the statement become part of the contract to ensure that the needed product is obtained. (This statement is similar to the detailed specifications developed for a competitive-bid process.) The manual states, "The preparation of the specifications or statement of work is one of the most critical steps...It is [in] essence a contract, and sets forth minimum requirements."
- agencies must develop a new request for proposals if an amendment to a previously issued request would significantly modify the nature of the original.
- the procurement negotiating committee must evaluate the proposals. This evaluation is designed to determine which proposed product or task will best serve the agency's needs. An extensive review, verification, and analysis of each proposal must be performed before entering into serious discussions.

The State Did Not Benefit by Using the Procurement Negotiating Process for This Project, Not Because of the Process Per Se, but Because the Department Did Not Follow Some Basic Requirements

The Department did not follow several of its own requirements. For example, it did not prepare a statement of work (specifications) for the integrated financial information systems, primarily because it had not clearly identified its own needs. Of the four vendors who initially submitted proposals for the system, two complained about the Department's failure to issue specifications.

In addition, the Department did not issue a new request for proposals when it significantly changed the purpose of the initial request for an automated purchasing system.

The procurement negotiating committee, consisting of three division directors within the Department, did evaluate the software proposals on such things as system design, maintenance support, and vendor performance. However, the committee was unable to evaluate the software on how well it fit the Department's needs, again because the Department had not analyzed those needs.

Department officials told us that the procurement negotiating process gave them the opportunity to learn about each vendor's product, and what that product could do. They said the State did not necessarily get a better price by using the negotiation process, but it might have gotten a better understanding of what it was receiving. This latter comment appears to be contrary to the Department's actual experience with the software modifications for this project.

Had the Department followed the requirements set out for the procurement negotiating process, we might have been in a position to assess whether that process ap-

peared to be appropriate for acquiring computer systems. As it was, we did not have sufficient evidence to draw any conclusions.

We found that two of five neighboring states allow their state agencies to use a procurement negotiating process to obtain computer equipment or software. We surveyed officials in the four surrounding states and Iowa. Three of the five states—Colorado, Iowa, and Missouri—did not allow State agencies to use negotiated procurements at all. Officials in Oklahoma said they did not usually allow negotiation, but occasionally made exceptions. Nebraska, which has a policy similar to Kansas' policy, was the only State that allowed negotiated contracts for computer hardware and software, as long as bids were taken.

What Options Does the Department Have for Implementing the Kansas Financial Information Systems Project?

We found that the most critical decision facing the Department was what to do with the personnel/payroll system. The current system has longstanding problems that will not be solved by upgrading the Unisys computer. Before deciding whether to complete the new system or correct the problems with the current one, the Department must consider such things as whether the new system will actually meet the Department's needs and the cost implications of the various options. The decision about completing the purchasing system should be based on the Department's needs for the system and a determination of how close the system is to being completed.

The Most Critical Decision Facing the Department and Legislature In This Area Is What To Do With the Personnel/Payroll System

The Department of Administration has spent more than \$5 million in contracted costs, and has invested more than 32,000 hours of State employees' time, acquiring and modifying software systems for the Kansas Financial Information Systems project. Yet most of that project has not been completed. The State still does not have a new personnel/payroll system, an automated purchasing system, or a fixed asset system, three major elements of the project.

In its March 1991 report, Price Waterhouse concluded that the old personnel/payroll system (KIPPS) needed to be replaced or enhanced because of increasing maintenance costs, the lack of readily accessible information for users, limited functions, poor documentation of the system's operating software, a substantial amount of data redundancy with the State's other central processing systems, and an overall lack of integration with those systems.

In addition, according to the Secretary of Administration the recent decision to replace and upgrade the Unisys computer was based on his conclusion that the existing personnel/payroll system was subject to imminent failure. He added that no major revisions are planned for the current payroll/personnel system, although he said the Department would do whatever was necessary to keep the system operating properly.

Replacing and upgrading the Unisys computer apparently will do nothing to solve the problems inherent in the current personnel/payroll system software (KIPPS). The current personnel/payroll system is considered to be very "fragile" and dangerous to modify. But as new laws or requirements have been put into effect over the years, the existing system has had to be repeatedly "patched" to accomplish those tasks.

Department officials told us that replacing and upgrading the Unisys computer will ensure that that computer's operating systems and hardware are stabilized, and that the State will receive technical support from Unisys that is no longer provided on the old computer system. The Secretary of Administration also said that these im-

provements would give the State time to make an informed decision about the Kansas Financial Information Systems. But Department officials readily acknowledge that the new acquisition will not address the problems inherent in the existing personnel/payroll software.

Because of the importance of the personnel/payroll system to the State's central operations, and because of the apparent problems in the existing personnel/payroll system, something must be done to address the State's long-term personnel/payroll needs.

Most upper-level Department staff involved with the project supported the idea of completing the system, but they pointed out certain actions or policy decisions that need to be made first. We interviewed the members of the project steering committee to obtain their views as to how the State should proceed. As noted earlier, these members were the former Directors of Accounts and Reports, Purchases, Personnel Services, and Information Systems and Communications, and the former Secretary of Administration.

In general, most officials told us they thought the State should continue implementing the Kansas Financial Information Systems project. However, the current Secretary of Administration (the former Director of Accounts and Reports) said he thought a complete needs analysis of the Department's personnel and payroll functions should be completed first, before a decision was made. In addition, two officials pointed out the need for certain policy decisions to be settled before proceeding any further. They cited two areas:

- whether to include the Regents' institutions in the personnel/payroll system (they are now excluded)
- whether to operate two separate mainframe computers, where one does not back-up the other in case of failure

These were emotionally charged issues that had disrupted earlier efforts on the project, and apparently had never been decided.

If the decision is made to complete a new personnel/payroll system, the Department must first determine whether the purchased software is suitable for the State's needs, and the most cost-effective approach for implementing the system. The Price Waterhouse report recommended that, if this option were chosen, the Department's system requirements should be redefined and the State should evaluate alternatives before deciding on a specific software. The State could then decide whether to continue with the development of the new Kansas Automated Human Resource System (KAHRS).

Under this option, the State could either do the work with existing employees, or contract out the work. State employees may have an intimate knowledge of the personnel/payroll function, but the Department does not have employees with the necessary programming skills. Current staff would have to be trained, or new em-

ployees would have to be hired. A consultant may be able to complete the job more quickly than State employees, without the up-front need to hire new employees.

A more detailed cost-benefit analysis than the Price Waterhouse report would be needed to determine which approach would be most cost-effective. However, two firms submitted proposals in late 1990 to complete the payroll/personnel system for the Department. These firms indicated that completing the system would take about one year, and that the State's contract costs would be between \$600,000 and \$1 million, depending on the number of State personnel assigned to the project. These costs likely would be higher now because of the length of time that has passed since the project was shut down.

Correcting the problems with the old personnel/payroll system (KIPPS) may be difficult. The Department could continue to patch the old system to keep it going. However, given the system's age and the apparent extent of its problems, the Department would run the risk of the system not functioning. We were unable to assess the extent of this risk. Also, the old system would not include some of the advantages of the new system, such as the ability to track applicants for each position, or to generate personnel resource cost projections.

Instead of continually patching the existing personnel/payroll system, the Department could rewrite it. As with a new system, before doing so the Department would need to conduct a thorough analysis of its needs to ensure that any newly written software program addressed those needs. One benefit of rewriting the existing personnel/payroll system is that Department staff are already familiar with it. A potential drawback: the initial development of the existing personnel/payroll system (KIPPS) was a multi-year project that required a significant investment of time and resources. There is no reason to think the development of a new system would be much less demanding.

Addressing the State's personnel/payroll system needs will have serious economic implications. The Department will not be able to accurately estimate the cost of modifying and installing a new or rewritten personnel/payroll system until after it fully analyzes the State's personnel and payroll needs. Such an undertaking is likely to be complex and costly. Because the new personnel/payroll system was not installed as originally planned, the Department was unable to eliminate the Unisys computer. Hence, the Department will not have the cost savings generated by eliminating the Unisys computer to finance that project.

In addition, there are potential long-term cost implications for the State, depending on the method chosen to address the State's software needs. If the Department completes the new personnel/payroll system (or decides to acquire another software package that is a better "fit"), that system presumably would be operated on the IBM mainframe computer, eliminating the need for the Unisys computer. However, if the existing personnel/payroll system is rewritten for the Unisys computer or patched, the Department would continue to operate both the Unisys and IBM comput-

ers. Apparently, this would necessitate having to continue to maintain separate staffs for both computers.

The Secretary of Administration told us his decision to replace and upgrade the Unisys computer would not influence the ultimate decision about whether to complete the new personnel/payroll system. Keeping the perceived politics of the IBM-versus-Unisys debate out of this decision will be critical to its ultimate success. In our opinion, the ultimate decision should be based solely on an independent analysis of the Department's personnel and payroll needs, and on the most cost-effective way to meet those needs.

The Decision About Completing the Automated Purchasing System Should Be Based on the State's Needs for Such a System and on a Consideration of How Close That System Is to Being Complete

Earlier audits completed by this office have pointed to the need for an automated purchasing system in Kansas. An automated purchasing system would provide for automated selection of vendors, comparisons of bids to historical costs, the tracking and assessment of vendor performance, and the ability to track items that agencies buy in sufficient quantity to attract volume discounts. The Legislature apparently agreed to the need for an automated purchasing system when it appropriated about \$372,000 to acquire a new system.

Most people we interviewed who were knowledgeable about the new purchasing system thought it should be completed. The Division of Purchases had prepared a detailed analysis of its needs for an automated purchasing system before it initially went out for bids on such a system. According to the former Director of Purchases, his staff had evaluated most of the available purchasing software programs against the Division's needs. Although the former Director and the project manager told us the purchasing system in the Peat Marwick and Main package (ADPICS) would not have been their first choice, they both said it was adequate to meet their needs.

According to the project manager, the purchasing system the State bought was about 85 percent completed when the project was shut down in November 1990. He estimated that it would take about 1,500 hours to complete. According to the manager, there were few problems in this system's development, it was just a matter of finishing the work that had been started.

Finally, we would point out that the new purchasing system would be integrated with the State's new accounting system (STARS). This was one of the initial vendor arguments for acquiring new, integrated financial information systems in the first place.

Before the new automated purchasing system is completed, the Department must determine whether its operating costs will be excessive as Department

officials have suggested. In November 1990 correspondence with the Director of the Budget, former Secretary of Administration Shelby Smith included an analysis of projected data processing costs. That analysis showed the projected annual processing costs for the automated purchasing system to be \$600,000 a year by fiscal year 1993. Secretary Smith and, later, Acting Secretary Art Griggs, both cited these high data processing costs for the purchasing system as one of the factors considered in shutting down the Kansas Financial Information System project. The Department had already experienced significantly higher-than-expected processing costs when the new accounting system came on-line.

By objectively evaluating that system, the Department will have a basis for knowing whether its processing costs will, in fact, be high, the reasons for those high costs, and the remedies available, if any, for making that system operate more efficiently and serve the State's needs on a cost-effective basis. If such an evaluation showed that the automated purchasing system the Department purchased cannot be operated on a cost-effective basis, the Department would again have to consider going out for bids to obtain a software program that would meet its needs and could be integrated with the State's new accounting system (STARS).

Conclusion

There is an apparent need in this State both for a new or revised personnel/payroll system and for an automated purchasing system. However, before any decision can be made about completing the Kansas Financial Information Systems, fixing existing software programs, or acquiring new ones, the Department must conduct the thorough planning and analysis that it failed to do at the project's start.

How Can the State Help Minimize Recurring Problems in the Development of Its Major Computer Systems?

The State has invested millions of dollars over the years in developing or acquiring major computer systems, often for systems that are completed only after lengthy delays or cost-overruns, or that are never completed at all. Our audits have shown that State agencies share many common problems in developing major computer systems. Kansas is not alone in this area; other states and federal agencies have experienced similar problems as well. Computer systems are not developed in a static environment; needs change, employees come and go, and time and cost estimates must change with them. However, there are steps that agencies can and should take to help minimize the recurring problems that can be avoided. These include proper planning, strong project management, and the commitment of sufficient resources throughout the project.

In addition, the State needs a central agency to take the responsibility for ensuring that the management practices described in this audit are followed in the development of large computer systems in Kansas. The most logical agency is the Department of Administration's Division of Information Systems and Communications.

Our Audits Have Shown That Several State Agencies Have Experienced Similar Problems In Developing or Acquiring Major Computer Systems

Since 1987, Legislative Post Audit has completed five audits examining various aspects of State agencies' acquisition or development of major computer systems. These audits are as follows:

- 1987 (Department of Revenue)
Problems Implementing the Kansas Business Integrated Tax System
- 1989 (Department of Revenue)
Reviewing the Department of Revenue's New Computer Systems: Vehicle Information Processing System and Computer Assisted Mass Appraisal
- 1990 (Department of Social and Rehabilitation Services)
Comprehensive Automated Eligibility and Child Support Enforcement System
- 1992 (Department of Administration)
Examining Problems Implementing the Kansas Financial Information Systems

Although some of these computer systems were plagued with more serious problems than others, in most cases there were significant cost overruns and delays in implementation. These audits have identified a number of common weaknesses associated with the ways State agencies develop and acquire major computer systems. In general, we have found that State agencies:

- do not adequately plan or manage their computer projects
- prepare unclear and often unenforceable contracts that do not hold contractors responsible for providing completed systems
- consistently underestimate how much work will be involved in the project
- underestimate costs, often leaving out normal costs that someone should be able to help them identify
- do not assign a high-enough priority to developing and completing their computer systems
- assign people with other full-time jobs to carry out important tasks
- consistently overestimate how much of a project can be handled by in-house staff
- move on to new project phases before fixing the problems identified in previous phases
- underestimate how much computer capacity will be needed to operate a system once it is developed and running
- lack the knowledge and ability to realistically assess the adequacy of consultants' work
- pay outside consulting firms or vendors for poor work
- often must use their own staff resources to "fix" systems that operate inefficiently because such problems are not discovered until after consultants have been paid.

We surveyed officials in the four surrounding states and Iowa to determine whether they experienced similar problems with computer systems development. We also reviewed reports by the U.S. General Accounting Office related to the problems federal agencies had experienced in acquiring and developing computer systems. The problems noted by the other states and the Federal government were similar to the ones Kansas has experienced.

Surrounding States Report Having Systems Problems Similar to Kansas

We surveyed agency officials in the surrounding states and Iowa, who were responsible for overseeing the development of state computer systems. Officials from all five states said that they had experienced problems with the development of computer systems that were similar to those experienced with the Kansas Financial Information Systems project. The following are some of their comments:

Colorado: Officials reported that they were installing a statewide accounting system. Several of that system's modules will not be in place when the project is finished including the purchasing, budgeting, and inventory components. Officials said the development of the system from off-the-shelf software will not be fully functional because the project was not well managed. An outside consultant was hired to develop the request for proposal for the system. The consultant noted everything the users wanted the system to do, and led the users to believe that all those things could and would be done. As a result the users' expectations for the system were unreasonably high. The official also said that a project manager was hired who did not have a strong technical background, which resulted in some portions of the project using more than their share of the budget. He indicated that a problem resulting from the reduced functionality of the finished system was that savings from consolidating the purchasing, budgeting, and inventory modules were to have partially financed the project.

Iowa: Officials reported that his agency they were installing a detailed criminal-incident-based reporting system. The major problem with implementing the system has been that the system requirements have changed. As a result, getting the system up and running is falling behind schedule. This official said the main problems with implementing large computer systems stem from poor project definition, changes made after implementation has begun, and mandated deadlines set without regard to the scheduling needs of the project. He said that the development methodology used in his state is characterized by heavy user involvement in systems development, and frequent checkpoints where administrators must sign off on the progress to date.

Oklahoma: Officials reported that they were developing an integrated central system, incorporating modules for payroll, purchasing, personnel, central accounting, and budgeting. The system was written in-house. Because the system took so long to develop, changes in personnel, state and federal laws, and agency procedures had to be dealt with as they occurred. Officials said that they instituted improved project management practices, including using development teams, strict separation of programmers and production staff, and a new systems development methodology. The new methodology is characterized by a lot of user involvement in the development process, and several checkpoints where users must approve the work as it proceeds. Oklahoma officials recommended getting software from another state or buying packaged software instead of trying to write it in-house.

Most Problems the State Has Experienced With the Development of Large Computer Systems Could Be Avoided by More Stringent Controls

Some agencies in State government have sizable computer operations and staff possessing the background and knowledge that would allow them to deal effectively with vendors offering products and services to the State. Other agencies, because of their size, often do not have staff with these same skills at their disposal. To gain control over the development of large State computer systems, central controls need to be established to ensure that a sound systems development methodology is established and strictly followed in the acquisition of all computer programs and systems.

Staff Comments About What Could Be Done Differently to Avoid Problems in the Future

We sent surveys to 68 State employees who had worked on the Kansas Financial Information Systems project. We received 33 completed surveys from these employees for a return rate of 48.5 percent. One of the questions asked was what the State could do differently to avoid problems with computer development in the future. Some of their comments are shown below.

— The State could appoint a project leader with expertise and experience in new systems development.

— There should be thorough research and planning before undertaking a project such as the Kansas Financial Information Systems.

— The State needs to realistically assess in-house staff expertise, experience, and availability to work on the project. Top management needs to motivate everyone on the merits and importance of the project, as well as the necessity to accept change.

— The State needs to ensure that competent managers and project leaders are in charge. Staff who are expected to develop and maintain the systems need to be fully trained.

— "Ready-made" software packages should not be assumed to be the answer to all things; neither are consultants. Decision makers should listen to State personnel's input before decisions are made.

— A thorough analysis of the functions and data needs of the system should be completed before the bid specifications are written.

— We must have a clearer definition of the goal and scope of the project, and must have commitment from management from all levels for all the resources the project needs. We needed more agency involvement and more involvement from actual end users. We seemed to be constructing a system for the ease of use of the programmers not the end users.

— Become knowledgeable about the actual capabilities of the software package and define system requirements before making any software purchasing decisions. Clearly define the scope of the project. Devote adequate resources to the project. Achieve widespread management support for the goals and objectives of the project before the work begins.

There is a widespread perception that the Division of Information Systems and Communications (DISC) has always had the responsibility for monitoring computer systems development. The Division has not assumed this role. Under State law, the Division is required to prepare all specifications for bids for acquisition of data processing equipment and programs. It has never been required by State law or regulation to monitor the projects to completion. Hence, once specifications are drafted, the Division has not been responsible for monitoring projects to ensure their successful completion.

There are a number of things that State agencies need to do to ensure the ultimate success of computer projects. For example, top level management in an agency acquiring a new computer system needs to demonstrate full support and commitment to the project so that other staff working on the project understand the importance of its successful completion. Agency management needs to select or hire a manager for the project that is skilled and experienced in implementing the type of computer system being contemplated, and provide that manager with the authority and resources to complete the project on schedule. In turn, that manager needs to be held accountable for timely completion of the project. Users of the system need to be consulted during all phases of the development to ensure that needs are being met and that those users will be satisfied with the new system being implemented. Specific management steps will be listed in the recommendations.

There is also a need for a central agency to control and monitor the plan-

ning and implementation of computer systems. It would make sense for the Division of Information Systems and Communication to assume this role. Failure to properly plan and monitor the implementation of computer projects has generally led to enormous cost overruns and significant delays if not outright failure of projects. Al-

though the time commitment and cost of properly planning a project is significant, the cost of not doing these things can be enormous. The following recommendations should help minimize State agencies recurring problems in developing major computer systems.

Conclusion

Most of the problems the State has experienced with computer systems development have not been technical problems but basic management problems. Having someone in State government that is responsible for monitoring the application of some basic management practices can help minimize these problems. However, each agency must ensure that the people managing and working on these projects have the experience, skills, and training that they need to do the work. Computer development projects deserve higher priority than they have received.

Recommendations

1. To ensure that computer systems are thoroughly planned and efficiently developed, the Department of Administration should develop written policies and procedures to ensure that:
 - a. Once an agency makes the decision to acquire or develop a major computer system, the agency conducts a thorough analysis to define its computer needs (the needs to be met by the computer system). If this step is contracted out, employees of the agency should be significantly involved in the process. Users must be made an integral part of this process as well.
 - b. Once this needs analysis is completed, the State agency should use the information provided to specify the tasks and products involved in the design and implementation of the system. This process includes developing specifications for the request for proposals, and should be available to vendors for their review before developing their proposals.
 - c. Once this needs analysis is completed, the State agency should use the information provided to evaluate and estimate the resources it will need to carry out the project. Those resources include both costs and personnel.
 - d. The choice of a vendor should be made based on a comparison of the vendors' products with the needs identified in the requirements definition.

- e. Contracts with vendors provide:
- for the use of an adequate computer development management system.
 - for specific products at each phase of the development of a system. Payment should be based on State acceptance of completed products. Each product should have a specific price attached to it and the State should only pay for completed products.
 - that if Department staff are used in the project, their numbers and duties are clearly specified so that the vendor cannot blame its failure to perform contractual obligations on State staff.
 - for a realistic penalty for non-performance by the vendor.
2. To ensure that all State agencies follow the written procedures it has developed, the Department of Administration should designate a person or agency to be responsible for monitoring agencies' compliance with those procedures.
3. The Secretary of Administration should periodically determine that the person or agency responsible for enforcing procedures related to computer systems development is adequately fulfilling that role.

APPENDIX A

Agency Response

On January 14, 1992, we provided copies of the draft audit report to the Secretary of Administration. His response is included as this Appendix.

STATE OF KANSAS



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JAMES R. COBLER, *Secretary*

JOAN FINNEY, *Governor*

January 22, 1992

Barbara Hinton
Legislator Post Auditor
800 Jackson, Suite 1200
Topeka, KS 66612-2212

JAN 22

Dear Ms. Hinton:

We have completed our review of the Legislative Post Audit report, *Examining Problems Implementing the Kansas Financial Information Systems (KFIS)*. Your auditors did an excellent job presenting the history of the project and summarizing the basic steps that need to be followed to implement large automated systems. In response to your recommendations, I have asked Jean Turner, DISC Director, to prepare policies and procedures to guide state agencies in designing systems. I have also directed the Division of Purchases to develop administrative procedures to insure all negotiated procurements follow state regulations.

DISC will develop policies and procedures which clearly state the standards for preparing requirements definition and for monitoring the progress of development efforts based on preestablished project milestones and deliverables. These policies and standards will be available for legislative review within six weeks. I have also asked DISC to base these standards on control objectives promulgated by the EDP Auditors Foundation and the U. S. General Accounting Office (GAO). Finally, I have asked DISC to prepare an implementation plan for monitoring the work of agencies and consultants involved in system develop projects. Although DISC does not have direct authority to withhold appropriated funds or shut down development projects, DISC can play a key role in documenting agency compliance with standards and state policies. In this regard, I want DISC to prepare audit reports for review by top level agency officials. These reports will summarize compliance with development standards and policies. The reports will also document project costs and budgets as established by agency fiscal officers and information systems managers. This work will be done by the DISC Bureau of Information Resource Management. I have asked DISC to absorb the cost through reassignment of personnel.

I have also directed the Division of Purchases to develop a training program on how to prepare information technology bid specifications. The training program will include detailed instructions on how to establish project milestones, how to specify discrete

Barbara Hinton
January 22, 1992
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deliverables, and how to develop penalties for failure of vendors to honor contractual provisions for large system development projects. All agencies must attend the training in advance of contracting for large system development projects. Again, I have asked Purchases to absorb the cost of this work.

As we move forward on these initiatives I will keep the legislature informed about the status of projects and successes we realize from a proactive approach to solving the problems identified by the auditors in their report. This Administration is committed to reducing waste and inefficiency in Kansas government. Therefore, we will make every effort to cost-effectively solve the KFIS project problems we inherited and avoid making the mistakes associated with the failure of the KFIS project during the justification, planning and implementation of future statewide automation development projects.

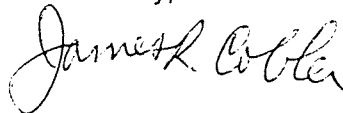
The report contains some statements regarding my performance with which I disagree very strongly. Because I realize it is impracticable for Legislative Post Audit to include the full story from each person's perspective, I will resist the temptation to discuss these items point by point.

During our review of the report we took note of the statement on page 11 that the upgrade of the UNISYS system "...must be viewed as additional costs the State will incur because of the Department's inability to implement the Kansas Financial Information Systems project." The audit report implies the entire upgrade cost is "additional," but fails to recognize that there is also a cost to process payroll/personnel had KFIS been implemented in the IBM compatible environment. In our view, any "additional cost" is the difference between the cost to process on the UNISYS system (KFIS not implemented) compared to the cost to process on the IBM compatible system (KFIS implemented).

One must keep in mind that when the decision was made to upgrade the Unisys computer, I was faced with maintaining the existing obsolete hardware and software or trade the costs of doing so for an upgrade which would replace both the obsolete hardware and software. In addition, I was under the time pressure of running a system which without notice could fail and cause a significantly late payroll. What was done was a cost swap. We traded money which would have been paid for maintenance of an old system for a system upgrade. It was the only practical way of stabilizing this computer environment in a short period of time within the appropriations available.

Once again, I wish to complement your staff on the audit report. Please be assured your recommendations will be implemented immediately.

Sincerely,



James R. Cobler
Secretary of Administration