Approved Thomas F. Walker
Date 3-24-87

MINUTES OF THE HOUSE COMMITTEE ON GOVERNMENTAL ORGANIZATION.

The meeting was called to order by Representative Thomas F. Walker at
Chairperson

9:00 a.m./p.m. on March 23, 1987 in room 522-S of the Capitol.

All members were present except:

Representative Peterson

Committee staff present:
Avis Swartzman - Revisor
Carolyn Rampey - Legislative Research
Mary Galligan - Legislative Research
Julian Efird - Legislative Research
Jackie Breymeyer - Secretary
Conferees appearing before the committee:

Ellyn Rullestad - Legislative Post Audit
Harvey Duncan - Secretary, Dept. of Revenue

The meeting of the House Governmental Organization Committee was called to order by Representative Thomas F. Walker, Chairman.

The agenda for the day was the Legislative Post Audit Report on the Kansas Business Integrated Tax System, or K-BITS.

Ellyn Rullestad began the report, stating the audit addressed three specific questions: 1) How do the initial cost and time estimates for the development of the Kansas Business Integrated Tax System system compare with actual costs and time? 2) Why has the implementation of the business integrated tax system been delayed for so long? 3) What is the integrated tax system currently expected to be able to provide, when, and at what cost? She directed the committee to page 3 where there was a chart showing Business Taxes Originally Included in the Kansas Business Integrated Tax System. Page 4 began the overview of how the system operates. (See Attachment 1)

Numerous questions were asked of Ms. Rullestad. She commented that the Conceptual Design Phase of the plan was awarded to the firm of Deloitte, Haskins, and Sells. This phase was to develop the general framework that would serve as the eventual implementation of the system. It was vastly underestimated what it would take to design, develop and implement a system of this scope and size. The department's oversight was incomplete due to many staff problems. The same consultants were not used throughout all phases because of the bidding process. Priority projects such as VIPS and reappraisal have taken manpower and resources.

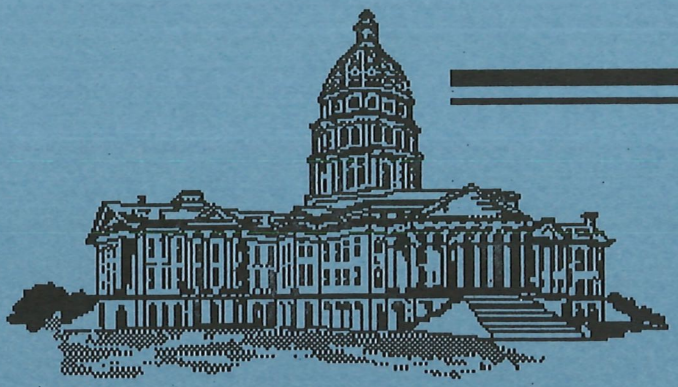
Harley Duncan responded to the committee. He mentioned the scope and magnitude of the undertaking and the priorities with VIPS and reappraisal. He mentioned the substantial investment K-BITS has in completing both transient guest tax and sales tax. He mentioned the CADES system, which was purchased in September, 1986. He eommented that K-Bits is not an island - there are many things going on. He is committed to the philosophy of integration. The number one priority for the department now is to meet the constitutional deadlines. Mr. Duncan said he could have an accurate portrayal of what is going on sent to the Chairman's desk today. The chairman replied it would be appreciated.

The chairman thanked Ms. Rullestad and Mr. Duncan. He stated the minutes stand approved. He told the committee to watch for changes in the agenda and calendar as there could be day-to-day changes. The meeting was adjourned.

GUEST LIST

COMMITTEE: GOVERNMENTAL ORGANIZATION DATE: MARCH 23, 1987

NAME	ADDRESS	COMPANY/ORGANIZATION
Tom Whitaker	Topeka	Post Audit
Allen Foster	Topeka	Post Audit
Ellyn Rickstad	Topeka	Post Audit
Barb Hinton	Topeka	Post Audit



PERFORMANCE AUDIT REPORT

Problems Implementing the Kansas Business Integrated Tax System

A Report to the Legislative Post Audit Committee
By the Legislative Division of Post Audit
State of Kansas
March 1987

87-47

Attachment 1
S. O. 3/23/87

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 $4 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.

As a guide to all their work, the auditors use the audit standards set forth by the U.S. General Accounting Office and endorsed by the American Institute of Certified Public Accountants. These standards were also 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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LEGISLATIVE DIVISION OF POST AUDIT

Suite 301, Mills Building
Topeka, Kansas 66612-1285
(913) 296-3792

PERFORMANCE AUDIT REPORT

PROBLEMS IMPLEMENTING THE KANSAS BUSINESS INTEGRATED TAX SYSTEM

OBTAINING AUDIT INFORMATION

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

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PROBLEMS IMPLEMENTING THE KANSAS BUSINESS INTEGRATED TAX SYSTEM

Summary of Legislative Post Audit's Findings

Since the end of fiscal year 1980, the Department of Revenue has been in the process of developing the Kansas Business Integrated Tax System to improve the Department's business tax processing, collections, and auditing functions. Legislative concerns have been raised about the delays in the implementation of the integrated tax system and about the costs of the system.

How do the initial cost and time estimates for the development of the Kansas Business Integrated Tax System compare with actual costs and time? The Department initially estimated that the integrated tax sytem could be completed by the end of fiscal year 1983 at a cost of $1.6 million. In March 1983, the Department revised its initial estimates and stated that the sales tax and transient guest tax portions of the system would be completed in fiscal year 1984 and that the rest of the system would be completed in fiscal year 1985. The total cost estimates at that time were $2.7 million. To date, the system has cost $2.8 million and it is still far from complete.

Why has the implementation of the Integrated Tax System been delayed for so long? The first consultant took longer than anticipated to prepare the detailed design, and it was initially full of errors and inconsistencies that had to be corrected. The Department's review of the detailed design was ineffective and incomplete. In addition, the Department paid for the detailed design and let bids for the next phase of the project before all the problems with the detailed design had been resolved. A second consultant was awarded the contract to complete the development of the system. Within a week of beginning work, that consultant determined that the specifications from the earlier phase were not detailed enough for coding. As a result, fixing and rewriting the detailed design specifications consumed much of the time during this phase. The consultant was able to have its contract modified so that it did not have to complete the system before it left. Since the consultant left, the Department has spent about 24,000 hours working on the system. It has not yet been completed for several reasons. The Department has not assigned a full-time manager to run the project, and it has reduced the resources available to the project.

What is the business integrated tax system currently expected to be able to provide, when, and at what cost? The Department is testing the transient guest tax on the integrated tax system. It expects to be running transient guest taxes using current data within the month. Sales tax programs are generally written, but are not fully tested. Estimates of when sales tax will be implemented on the system range from one year to eight years. Department staff indicated that additional business taxes will be incorporated after sales tax, but no agreement exists on which taxes will be included when the system is completed. In addition, Department staff support the concept of the integrated tax system, but some expressed concern that parts of the system's current design could make it inefficient and unmanageable.

The audit recommends that the Department continue to implement the transient guest tax but halt work on the rest of the system. The audit also recommends that the Department reassess its business tax processing objectives and develop a realistic long-range plan for upgrading the State's tax processing capabilities, including such things as cost estimates, deadlines, provisions for a full-time project manager, adequate resources, and continuity in personnel.

PROBLEMS IMPLEMENTING THE KANSAS BUSINESS INTEGRATED TAX SYSTEM (K-BITS)

Since the end of fiscal year 1980, the Department of Revenue has been in the process of developing and implementing the Kansas Business Integrated Tax System (commonly referred to as K-BITS). The system, which is designed to improve the Department's business tax processing, collections, and auditing functions, was initially expected to be in operation by the end of fiscal year 1983. That timetable has been pushed back each year. Currently, the Department estimates that only one of the State's 25 business taxes will be operating under the system during 1987. That tax--transient guest tax--covers only 425 business tax accounts out of a total of about 233,000 accounts.

Legislative concerns have been raised about the delays in the implementation of the integrated tax system. Concerns have also been raised about the costs of the system and whether it will work as intended.

To address these concerns, the Legislative Post Audit Committee directed the Legislative Division of Post Audit to conduct an audit examining the development and implementation of the Kansas Business Integrated Tax System. The audit addresses the following specific questions:

1. **How do the initial cost and time estimates for the development of the Kansas Business Integrated Tax System system compare with actual costs and time?**

2. **Why has the implementation of the business integrated tax system been delayed for so long?**

3. **What is the integrated tax system currently expected to be able to provide, when, and at what cost?**

To answer these questions, the auditors interviewed officials of the Department of Revenue who have been involved in the system's development. They reviewed budget documents and other related financial data. They also reviewed pertinent reports from each phase of the development process and interviewed some of the consultants responsible for preparing those products. In addition, they interviewed officials of other State agencies as well as other states to determine their experiences in developing large-scale computer application systems.

In general, the auditors found that the Department has vastly underestimated the magnitude, time, and cost of developing and implementing the integrated tax system. The system has been delayed for so long because each step in its development has been plagued with problems. Although Department officials indicate the system is about 70-80 percent complete, they could not say when the system would be operating for just two business taxes. The system's design also includes inefficiencies that could make it unmanageable and difficult to use. The Department apparently continues to underestimate the time and resources needed to bring two taxes onto the system, and the auditors questioned whether it would ever be able to implement a fully integrated tax system. It appears that serious consideration should be given to stopping the development of the current integrated tax system and realistically assessing the steps that need to be taken to fix or replace that system.

Following a brief overview of the Kansas Business Integrated Tax System, these and other findings are discussed fully in the remainder of the audit.

Overview of the Kansas Business Integrated Tax System

In an issue paper prepared in the late 1970s as part of the budget process, the Department of Revenue stated that its information processing systems were inadequate to meet its growing needs. Among other problems, the Department used two different computer systems to carry out its varied responsibilities. Most of its tax programs were on a UNIVAC computer system, while its vehicle information programs were on an IBM computer.

Other, more specific problems were also apparent. The Department's business tax systems were developed during the 1950s in response to legislative changes, and each system was set up differently. For example, transient guest tax accounts are essentially processed manually, while the system for processing sales taxes is fully automated.

Because the State's business taxes were developed separately and over time, no common database of business tax information exists to provide complete tax information about a particular taxpayer. And because each taxpayer had a different identification number for each business tax, the Department could not cross-check between taxes to see if a taxpayer who was owed a refund for one business tax had a liability for another.

Other inefficiencies existed as well. Many of the steps involved in processing business tax returns were handled manually, resulting in excessive errors. An excessive amount of duplicate data was maintained for each business. When changes were made, they had to be made for all duplicate sets of data, further increasing the chances for errors or inaccuracies.

In fiscal year 1980, the Department developed an Information Systems Plan in conjunction with IBM that addressed its overall information needs. IBM provided its assistance at no cost to the State. Among other things, that plan identified several problems specifically related to business taxes. In addition to those listed above, that plan noted that it took far too long to update new tax information on the computer, no effective collection follow-up system had been established, document control was lacking, no automated procedure existed to initiate or monitor legal action that should be taken on delinquent accounts, and the field staff received inadequate information.

The plan recommended that the Department make improved business tax processing its highest priority, and served as a catalyst in the Department's decision to develop the business integrated tax system.

As Conceived, the Business Integrated Tax System Would Make Business Tax Processing More Efficient And Would Consolidate All Business Tax Information

The system itself was to be a non-tax-specific, computerized system that would integrate the processing of all 25 business taxes. It would address the problems identified above. The accompanying table lists the taxes that the system would eventually process, and presents some current information about those taxes.

Business Taxes Originally Included in the Kansas Business Integrated Tax System

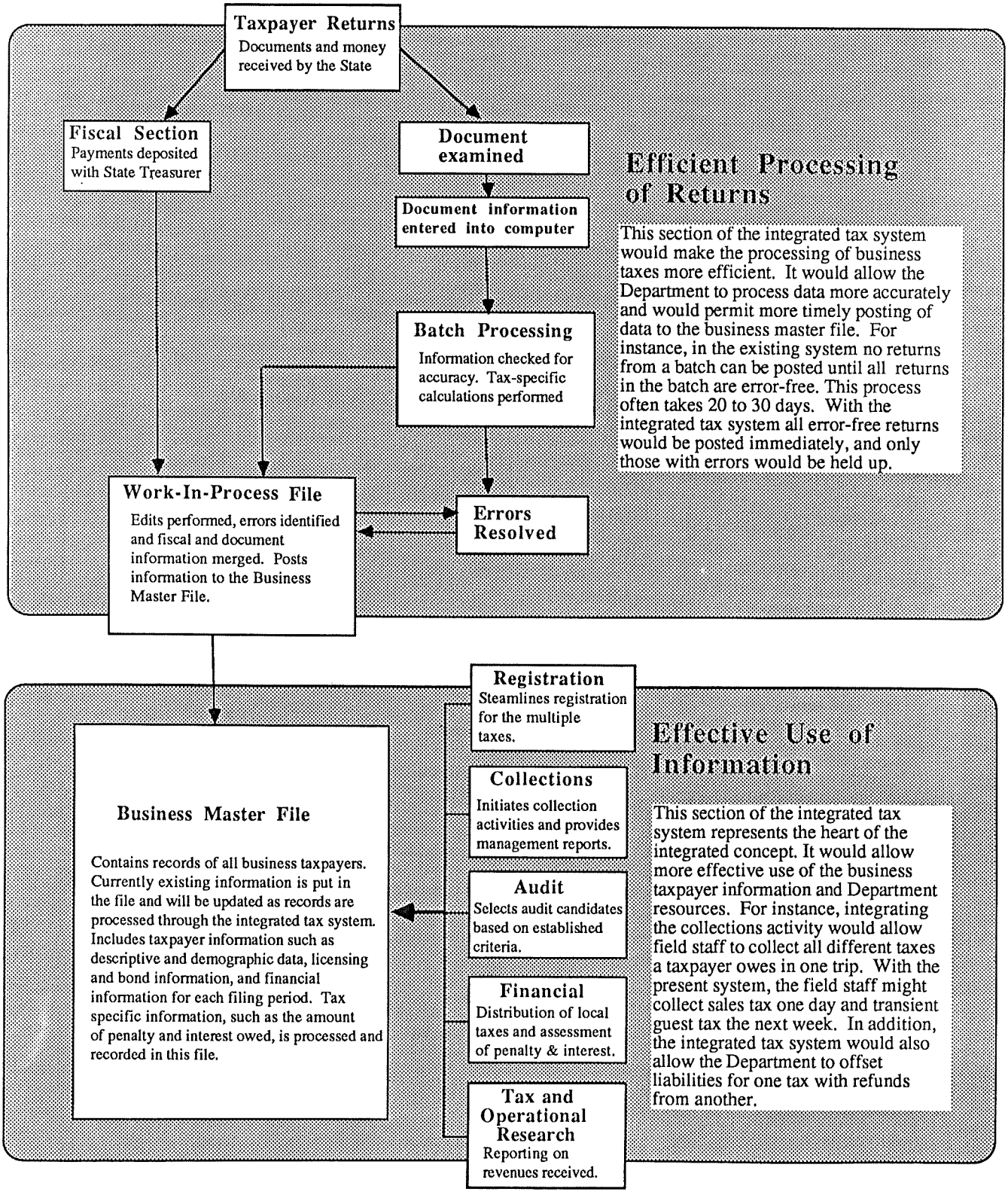
Tax	Number of Accounts	Fiscal Year 1986 Revenues
Retailers' sales	80,000	$ 491,433,177
Compensating use	6,300	71,551,991
Liquor excise	1,400	10,485,968
Liquor Enforcement	1,200	17,743,451
Cigarette	118	58,725,680
Tobacco products	94	1,291,089
Transient guest	425	4,264,972
Bingo enforcement	700	743,979
Motor vehicle fuel	1,200	124,449,817
Special fuel	2,100	27,418,485
Liquid petroleum fuel	300	659,980
Liquid fuel carrier's license fee	1,000	10,910
Interstate motor fuel user	16,500	6,429,589
Non-resident contractors fee	100	1,900
Gallonage tax	85	11,981,983
Cereal malt beverage	56	4,654,504
Corporation income	36,000	81,252,620
Privilege	750	20,205,359
Corporate estimated	20,000	88,012,657
Withholding	65,000	555,978,173
Sand and gravel	21	1,069,350
Gas and oil royalty	33	208,858
Oil inspection	45	149,590
Car line	11	838,440
Express company	0	0
TOTAL	233,438	$ 1,579,562,522

A fully integrated business tax system would be very complex. It would process business tax information through some 500 interrelated computer programs. The figure on the next page provides a simplified version of how the system would work.

As the figure shows, the integrated tax system was designed to process business taxpayers' returns more efficiently. Information from a return would be entered into the computer to be processed and checked for accuracy. Any tax-specific calculations--such as calculating the penalty and interest owed on an overdue sales tax account--would be performed at this stage as well. After additional checks, edits, and corrections were performed in the "work-in-process" file, the business tax information would be entered into a "master" file database of all business tax accounts.

This file would contain the records of all business taxpayers, and currently existing information would be automatically updated as records were processed through the system. The specific tax being paid would be automatically "posted" to the taxpayer's coded account. Thus, the integrated tax system would automate

OVERVIEW OF KANSAS BUSINESS INTEGRATED TAX SYSTEM



routine clerical tasks, minimize data duplication, and reduce the time required to post tax information. It would also provide a way to track taxpayer documents through the system, improving the Department's ability to provide taxpayer assistance.

The figure also shows that other major functions would be "run against" the information contained in the business tax master file. The collections function would use the information to determine what moneys a taxpayer owes the Department. The registration activity would use the information in the master file to identify all the taxes a business should be registered for, and would streamline the registration process by providing a common taxpayer identification number for all business taxes. The audit activity would use the information in the master file to identify businesses that had not filed taxes. By consolidating these functions into one large system for all business taxes, the integrated tax system would allow the Department to identify all the taxes a taxpayer is liable for, coordinate delinquency notices and collections, and simplify taxpayer registration and licensing.

The concept of an integrated tax system was not unique. A number of other states the auditors contacted have tax systems in operation or under development that they integrated to varying degrees. However, none of those states' systems is more comprehensive or more fully integrated than the system proposed for Kansas.

How Do the Initial Cost and Time Estimates for the Development of the Business Integrated Tax System Compare With Actual Costs and Time?

In an issue paper prepared for the 1981 Legislature, the Department of Revenue estimated that the integrated tax system could be completed by the end of fiscal year 1983 at a cost of $1.6 million. Those estimates assumed that consulting resources would be used throughout the rest of the project. However, the estimates were made before the conceptual design of the project was finished.

The Department revised those estimates as it became more aware of the magnitude of the project. In a March 1983 status report prepared in response to a legislative request, the Department estimated that the portions of the business integrated tax system needed to operate just the sales tax and transient guest tax on that system would be completed in fiscal year 1984. The Department also indicated that completing these portions of the system would represent about 80 percent of the total effort required to process all business taxes under the integrated tax system. The report further anticipated that the rest of the system would be completed in fiscal year 1985.

According to that status report, total development costs through fiscal year 1985 were estimated to be just under $2.7 million. These cost estimates included computer processing expenditures, Department staff salaries, and consultant fees.

Although the Department has not updated its estimate of the system's overall cost since that status report, it has revised its time estimates several times since then, primarily in budget documents. For example, as recently as in its fiscal year 1987 budget request, the Department estimated it would be able to operate both transient guest taxes and sales taxes on the integrated tax system by the end of fiscal year 1986.

The Department's Time Estimates Have Not Been Realistic, And Its Cost Estimates Have Already Been Exceeded

To date, development of the integrated tax system has cost $2.8 million. As the table on page six shows, $1.7 million of that amount was spent on Department of Revenue staff and data processing. The remaining $1.1 million was spent on consultants.

Actual Expenditures for the Kansas Business Integrated Tax System

	Conceptual Design Phase	Detailed Design Phase	Coding & Implementation Phase	Post-Consultant Work	Total Spent To-Date
Consultant Fees	$155,000	$429,845	$483,592	$0	$1,068,437
Revenue Staff	39,406	262,559	612,927	382,522	1,297,414
Data Processing	0	194,754	164,792	97,093	456,639
TOTALS	$194,406	$887,158	$1,261,311	$479,615	$2,822,490

Although the total cost to date of $2.8 million is only slightly more than the amount the Department originally estimated a completely integrated business tax system would cost, the system is far from complete. At the time of the audit, Department officials estimated that only transient guest tax would be operating under the integrated tax system during 1987. No one within the Department could say with any certainty when the system would be completed, or what the completed cost of the project would be.

Why Has the Implementation of the Integrated Tax System Been Delayed For So Long?

Clearly, the business integrated tax system has taken much longer to develop than the Department of Revenue originally estimated, and it has already cost more than planned. Department officials now readily admit that they had vastly underestimated what it would take to design, develop, and implement a system the scope and size of the integrated tax system.

Because of the system's size and the Department's inexperience managing large-scale projects, the Department decided to contract out the management and development of the business integrated tax system. The project was divided into three distinct phases--conceptual design, detailed design, and coding, testing, and implementation. Separate contracts were let for each phase, but Department staff were to perform some of the work as well.

The auditors interviewed key staff members who participated in the system's development. They also reviewed Department memoranda and other related documents that, taken together, describe the project's history to date. In general, they found that the design, development, and management of the business integrated tax system project has been plagued with problems. It appears that many of these problems could have been prevented.

- The first major delay occurred during the detailed design phase. More importantly, the design specifications the consultant produced during this phase were flawed and incomplete, and could not be used as intended in the final stage of the system's development as the basis for coding computer programs. The Department's ineffective reviews and oversight of the detailed design phase neither prevented these problems nor identified most of them until after the consultant who had done the work had already been paid.

- The Department let bids for the final phase of the project--programming the computer, testing those programs, and putting the integrated tax system into operation--before it realized the magnitude of the problems with the design specifications. Because a different consulting firm won the contract bid for this final phase, the first consulting firm could not be held responsible for the major corrections and rewriting that followed.

- Fixing and rewriting the detailed design specifications consumed most of the scheduled time for the final phase of the project. Because of these design problems and because the Department had modified some elements of the tax system after the final contract had been let, the Department allowed the second consultant to quit working on the project on the scheduled completion date, even though the phase was far from complete. The Department modified the contract to relieve the second consultant of any legal liability for not meeting the original contract terms.

- Since July 1985, the Department has assumed responsibility for completing the integrated tax system. It is still working on the two taxes--transient guest tax and retail sales tax--currently scheduled for incorporation into the system. The development of even this much of the system has been hindered by the Department's failure to assign a full-time manager to the project and its decision to cut back on the staff and computer resources available for the project.

These problems are explained in some detail in the sections that follow.

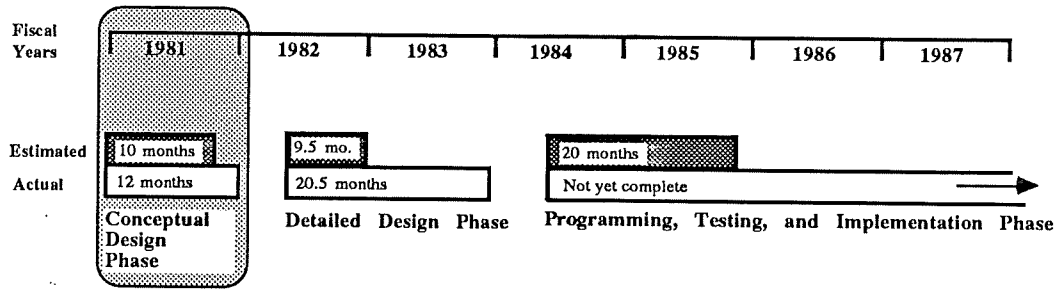
The Conceptual Design Phase Was Completed Two Months Late, But the Final Product Was Apparently Satisfactory

The conceptual design phase was intended to develop the general framework that would serve as the basis for the eventual implementation of an integrated tax system. In addition, the contract for this phase called for reports to be prepared on the Department's information needs, the adequacy of the existing data processing systems, the relationships among the various revenue collection functions, the costs and benefits of the project, and a management plan for the next phase of the project.

Although the consultant was to be primarily responsible for the completion of this phase, the Department anticipated that State personnel would assist the consultant in gathering information, conducting interviews, and the like.

In June 1980, the firm of Deloitte, Haskins, and Sells was awarded the contract for $155,000, or about $45,000 less than the Department had estimated. Work on the contract began in September 1980 and was completed in late June 1981, or about two months later than specified in the contract.

Development of the Kansas Business Integrated Tax System



According to the Department, the primary reason for the delay was that the consultant did not devote enough time to on-site supervision. According to Department staff, however, the consultant provided a general design as required, and the final reports from this phase were quite acceptable. They described how the Department operated and the problems that the new system would correct.

The Detailed Design Phase Was Plagued With Problems That Adversely Affected the Development of the Rest of the Integrated Tax System

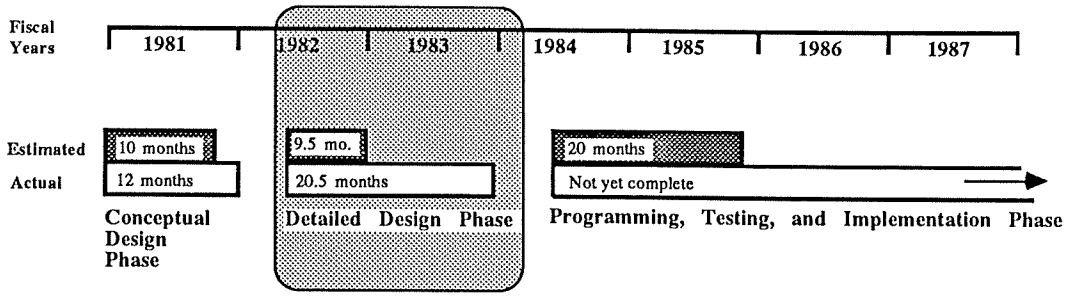
The detailed design phase, the next step in the project, in many ways was the most important step in the project's development. The design specifications needed to make the system work were to be developed during this phase, as would the logic that described how all the programs fit together. The reports that the system needed to produce for people using it would also be developed. The objective of this phase was to make the information from the conceptual design specific enough so that it could be coded by computer programmers.

The detailed design phase was to be a joint effort between the consultant and the Department of Revenue. The consultant would provide overall management for the phase and other personnel as needed. The State would provide a project director, three systems analysts, a database administrator, and two revenue analysts. As specified in the contract, these Department staff would provide at least 9,000 hours to the consultant in the project. Other Department staff would be used as needed to review the final products.

The detailed design phase contract was awarded to Deloitte, Haskins, and Sells, the same firm that had done the conceptual design. The total cost of the contract was $429,845, about what the Department had estimated. It was scheduled to begin in October 1981 and be completed by the end of July 1982. In fact, this phase of the project ran over schedule by about a year, and the consultant continued to make changes to the final product for about five months after receiving the final contract payment.

The delay itself can be attributed to several factors. First, Deloitte, Haskins, and Sells' development of the detailed design took longer than expected. Some of its early work was full of errors and inconsistencies and had to be redone. Second, the Department's review of the detailed design took much longer than expected. In all, Department staff clocked nearly 22,000 hours during this phase.

Development of the Kansas Business Integrated Tax System



But the real problem with the detailed design phase was that the design specifications the consultant produced were later found to be flawed and incomplete. The Department's review and oversight of the detailed design phase neither prevented these problems nor identified most of them until after the final contract payment had been made. These findings are discussed in the sections that follow.

The Department's management and oversight of the detailed design phase was ineffective and incomplete. Although it hired consultants to manage and develop much of the integrated tax system, the Department was still responsible for a number of management tasks during each phase--writing contract specifications telling the consultant what it wanted done, reviewing the consultant's work, and ultimately decided whether that work met the terms of the contract and would do what it was supposed to do. In the detailed design phase, the consultant was supposed to produce design specifications that could be "translated" or programmed directly into computer language in the next phase of the project.

The auditors found that the Department failed to adequately carry out its responsibilities over the contract process during the development of the system's detailed design. For example, the Department's contract specifications for the detailed design phase did not specify such things as the level of detail the consultant needed to provide so that the rest of the project could be effectively carried out. Especially toward the end of this phase, the Department became concerned that some of the design specifications that Deloitte, Haskins, and Sells was providing were not written in sufficient detail so that a computer programmer could follow them. In many instances, the firm said it was providing sufficient detail, and that the Department's concerns were not substantive but were simply a matter of preference. The Department generally accepted the consultant's final decision.

During and after the consultant's development of the detailed program instructions, the Department was responsible for reviewing the work to ensure it was technically sound and would work as intended. However, the Department's reviews of the consultant's work during the detailed design phase failed to correct or even identify many of the problems with the design specifications that were later discovered.

The reasons why the Department's reviews were incomplete and inadequate varied. First, the Department staff members assigned to the project apparently had

no experience working on such a large and complex computer system. Further, although these staff members were skilled computer technicians, Deloitte, Haskins, and Sells assigned them to perform the less complex tasks of the detailed design. As a result, the Department's skilled technicians did not become familiar with the more complex parts of the design or how they fit into the overall system design.

Second, the quality assurance team the Department named to review the project was unable to conduct its reviews until very late in the detailed design phase. This quality assurance team was not involved in the actual development of the system's detailed design, but was going to be involved with the next phase--actually using the consultant's design specifications to code computer programs. Thus, its review would have been an important check on the adequacy of the consultant's work. The quality assurance team was unable to conduct its reviews because the staff members on that team had other full-time responsibilities within the Department.

Finally, because of the large volume of documentation and instructions the consultant produced, the Department's staff could not conduct as complete a review as was needed. The consultant's documentation, diagrams, instructions, and coding directions specifying how the system should work filled a total of more than 50 four-inch notebooks. This finished product was so voluminous because the consultant had adhered to the State's newly acquired standardized methodology for designing and developing large-scale projects. That methodology, called the Systems Development Methodology, required reviews, assessments, and decisions to be made at every step of a project, and required thorough documentation of every step.

Because the Department had so much material to review, it divided the review responsibilities among several technical staff and users. The reviews did identify a number of continuing problem areas, such as typing errors, incomplete specifications, and errors in logic, which were sent back to the consultant for corrections. However, the Department could not completely review all the documentation provided.

The Department approved the consultant's work for the detailed design phase and paid the contract off before the problems being discovered with the design specifications were resolved. As the detailed design phase was coming to an end, and shortly before the final payment was made to the consultant, some staff members involved in the project began to express serious concerns about the adequacy of the consultant's final products. These included members of the quality assurance team that was originally to have been part of the review process. They indicated to Department officials that the design specifications the consultant had developed were not sufficiently detailed to allow a computer programmer to code from them. One Department employee told the auditors that the the level of detail provided in some of the specifications was comparable to saying "build a car," without providing detailed instructions on actually how to build a car.

In addition, before appropriating funds for the final contract phase (programming, testing, and implementing the integrated tax system), the Legislature asked both the Department and the Division of Information Systems and Communications to review the project management to date to ensure that the detailed design was satisfactory.

Large Systems in Other State Agencies

Other State agencies also have large computer application systems in place or under development.

Transportation: This agency has a resource management system that is comparable in size to the Kansas Business Integrated Tax System, according to Department officials. The system provides financial, scheduling, and project inventory information for the entire Department. The system was developed in the late 1970s using consulting resources and in-house staff.

The system is integrated, but was developed in discrete pieces that could be implemented quickly. As resources become available, additional pieces, such as personnel and skill information, can be added. Department officials indicated to the auditors that they used the State's standardized development methodology in developing the resource management system's detailed design, but that they modified it to some extent to reduce the volumes of paperwork.

Social and Rehabilitation Services: The agency has hired a consultant to work with Department staff to complete the automated eligibility and child support enforcement system (CAECSES). The consultant has designed similar systems for a number of other states, and those designs are being adapted for use in Kansas. Because there are many federal requirements in such a system, common elements exists among all states, making the design of the program somewhat easier than if the agency had to design it from scratch.

Department of Administration: This Department has the Kansas Integrated Personnel and Payroll System (KIPPS). This system, maintained on the State's UNIVAC computer system, is quite large. it was primarily developed in-house. It contains millions of pieces of information. According to Department officials, like the Department of Transportation, staff of the Division of Information Systems and Communications, also use the State's standardized methodology in developing their systems.

The Department's status report on the integrated tax system's progress to date was issued in March 1983. That report cited a number of reasons why the system's development had been delayed, including the fact that the Department and the consultant had both underestimated the scope and magnitude of the project, the quality of some of the consultant's written documentation was not up to standards and had to be reworked, and the volumes of materials the consultant produced took longer than expected to review. Nonetheless, the Department anticipated that it could complete its review of the documentation and design specifications by the end of April 1983.

In its formal report on the project, issued in April 1983, the Division of Information Systems and Communications' assessment was generally favorable. Although the Division did not review any of the volumes of documentation and detailed instructions Deloitte, Haskins, and Sells had produced, the report noted that the project was being well-managed and that the use of the new methodology minimized the risks associated with the project. The report did note that some problems existed with the quality of the consultant's work, especially in the area of insufficient documentation, but said these problems were being addressed. In addition, the Division stated that the delays that had occurred in the project were not

excessive for a project the size of the integrated tax system, but it noted that the Department's estimates for the final phase may be too low.

In subsequent informal discussions with Department staff, however, some of the Division's staff apparently pointed out problems. For example, Division staff members indicated to the auditors that they had expressed their concerns about the volumes of materials Deloitte, Haskins, and Sells had produced. They said that because the volumes of documentation and instructions were not well indexed, those materials could not be easily used and did not look like a phase-end document.

Despite these concerns, Department officials were apparently convinced that the problems were not insurmountable, and the consultant was paid. The final payment for the detailed design phase was made in June 1983, even though the Department's review of the consultant's work was not complete. Deloitte, Haskins, and Sells continued to correct and revise various parts of the design specifications through November 1983, five months after it had been paid by the State.

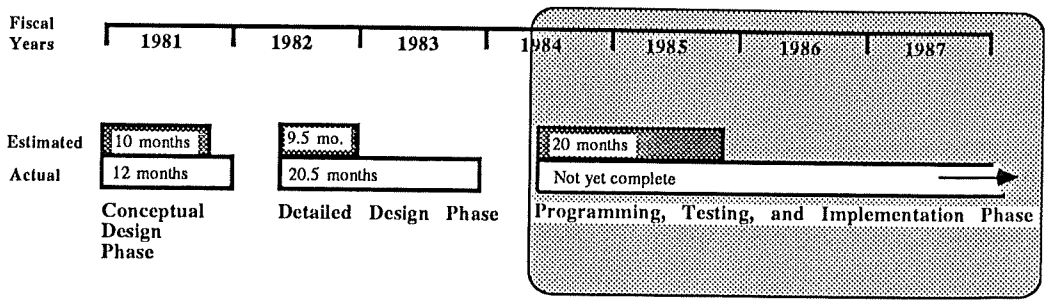
The Department Let Bids for the Programming, Testing, And Implementation Phase of the Tax System Before Fully Realizing the Magnitude of the Problems With the Design Specifications

The contract for the final phase of the project called for the recipient to use the design specifications developed by Deloitte, Haskins, and Sells as building blocks to write and test the programs and implement the integrated tax system for two taxes--transient guest tax and sales tax. The outcome of this phase was to be a completed system that would be ready to process the two taxes.

This phase was to be a joint effort of the contractor and the Department. The contractor was to provide management and technical assistance and the Department was to provide a project director, a quality assurance group made up of three technicians, and eight full-time programmers who would work under the supervision of the contractor for at least 9,500 man-hours. The phase was to start in November 1983 and was to be completed in June 1985.

The final contract was awarded to Alexander Grant and Company. The firm submitted a bid of $483,592, almost $200,000 under both the bid submitted by Deloitte, Haskins, and Sells and the amount the Department had estimated the phase

Development of the Kansas Business Integrated Tax System



would cost to complete. In its proposal, the firm stated that its bid was 30 percent below normal rates because it wanted to gain experience doing government work.

Alexander Grant and Company quit working on the contract for this final phase on or near the scheduled completion date. But the system was far from complete. Almost immediately after starting the contract, the firm indicated it could not use the design specifications to code computer programs because those specifications were flawed and incomplete. Fixing and rewriting the design specifications ultimately consumed much of the scheduled time for this contract. For these and other reasons, the Department modified the contract, allowing the firm to quit on schedule and relieving it of any legal liability for fulfilling the contract terms. These findings are discussed in detail in the sections that follow.

Within a week after beginning the final phase of the project, Alexander Grant and Company indicated that its programmers could not use the design specifications produced by Deloitte, Haskins, and Sells because they were flawed and incomplete. According to both the Alexander Grant and Company and Department employees, the design specifications were not written in sufficient detail to allow the programmers to program directly from them. A Department employee told the auditors that a one-page specification sheet he reviewed became 10 pages long by the time he had brought it up to the necessary level of detail.

In addition to the lack of detail, Alexander Grant and Company indicated that the detailed instructions it had to work with were often unclear and incomplete, and sometimes incorrect. It cited such problems as a lack of documentation of the system's logic and unclear definitions.

It appears that the switch in consulting firms midway through the project compounded the problems being identified with the design specifications. At a minimum it resulted in a tremendous loss of continuity and understanding of how the integrated tax system would actually work. The auditors were not able to determine whether the programming could have been done with fewer problems if Deloitte, Haskins, and Sells had won the contract and had been on-hand to manage it.

Fixing and rewriting the detailed design specifications consumed much of the calendar time scheduled for this contract. Had Deloitte, Haskins, and Sells won the contract, the Department could have required it to correct the errors and inconsistencies that were found in the design specifications. Given the change in consultants, fixing and rewriting the detailed design specifications became the Department's responsibility, and the project could not go forward until the problems and errors were resolved. Alexander Grant and Company agreed to assist the Department in this task.

Well into the contract period, Alexander Grant and Company expressed concern that it was using all its scheduled time and resources to help the Department correct the design specifications. It established a deadline of May 1984 for all corrections to be made so that it would have sufficient time to complete the rest of its contractual obligations.

The Department could not meet that deadline for several reasons. The process of correcting the detailed design specifications was difficult without the assistance of the Deloitte, Haskins, and Sells staff who had designed the system

and understood its details and complexities. None of the Department's staff members working on the project had a good understanding of how the overall system worked. Also, some key members of the staff, who had worked on the system's development and understood at least parts of it, had resigned.

Trying to meet the consultant's deadline for correcting the detailed design specifications, the Department reassigned responsibilities for some of its staff members working on the project. As a result, other important tasks that they were responsible for completing during this final phase of the system's development--such as converting, coding, and entering existing data for business taxpayers onto the master file--were not completed as planned. But in all, Department staff spent a total of nearly 43,000 hours working on this phase of the system.

The Department agreed to modify its contract with Alexander Grant and Company because it had not fulfilled all its contractual obligations and had changed the design of the system after awarding the contract. In August 1984, the contractor asked the Department to modify its contract based on the delays caused by the need to correct or rewrite most of the detailed design specifications.

It also cited the fact that the Department was continuing to make modifications to the system design. Throughout the final phase of the project, the Department modified some of the key elements in the basic design of the tax system. While working with the design specifications, Department staff began finding ways that the system needed to be changed or could be improved. By the end of the second month of the contract, the Department had added more than 70 programs to those listed in the contract. When it bid on the contract, the consultant indicated, the contract had consisted of fewer programs.

The Department's project manager objected to the proposed modification because Alexander Grant and Company had inspected the design specifications before bidding on the contract and had attended the pre-bid conference held to answer bidders' questions. However, Department officials apparently decided they could not hold Alexander Grant and Company to the original contract, and agreed to modify the contract.

Those modifications relieved the contractor of the commitment to provide any additional staff to the project and allowed it to quit working on the project on June 30, 1985, the originally scheduled completion date. If the project was not complete at that time, the consultant would be required to provide 20 additional staff-days from one staff member. At the end of this 20 staff-day period, the contractor would be relieved of any responsibility for correcting errors in any programs it had completed. The Department agreed to pay the contractor in full for the contract.

At the conclusion of the contract, the business integrated tax system was far from complete. Alexander Grant and Company quit working on the project on June 30, 1985. At the Department's request, the consultant supplied 20 days of one of its staff member's time over the following six weeks for no additional money. When the consultant left, three of nine groups of programs had been completed, tested, and accepted by the Department. In addition, some of the programs in the other groups were in varying stages of completion and testing. Many of the remaining design specifications still had not been reviewed and

corrected. Nevertheless, Department officials told the auditors that they felt the Department had "gotten its money's worth" for this phase of the project.

Since June 1985, the Department Has Been Working To Complete Parts of the Integrated Tax System Using Its Own Staff, But It Apparently Has Not Placed a High Priority on the Project

After the contractor left, the Department decided to concentrate only on those programs necessary to operate transient guest tax. Department staff have also had to continue reviewing and correcting design specifications that were incomplete. Since July 1985, they have spent nearly 24,000 hours working on the tax system.

During their review of the system's development since July 1985, the auditors identified several problems that led them to conclude the Department had not placed a high priority on completing the business integrated tax system. Specifically, the Department has not assigned a full-time manager to the project and it has reduced the other staff resources devoted to the project. These and other problems are explained more fully in the sections that follow.

The Department of Revenue has not assigned a full-time manager to the project since assuming full responsibility. Throughout the contractual phases of the integrated tax system, the Department required the consultant to provide direct management for the project. Since then, no full-time manager has been assigned to the project. The current project manager has other duties and has been able to devote only about 15 percent of his time to the integrated tax system's development. As a result, the lead analyst, who also has other duties, has had to assume some of the management duties. Recently, however, the Department assigned another person to manage the development of the sales tax. That staff member will devote approximately 30 percent of his time to the project.

The Department has reduced the other staff resources devoted to completing the integrated tax system. Within six months after the last consultant left, the project team was reduced by seven programmers and one data processing person. Many of these employees were transferred to other systems that were being developed within the Department. Others quit their jobs and were not replaced. Currently, two full-time analysts, four full-time programmers, and a part-time analyst/programmer are assigned to the project. This reduction in staffing levels has slowed down completion of the programming and testing for the project.

What is the Business Integrated Tax System Currently Expected to be Able to Provide, When, and at What Cost?

The Department of Revenue initially estimated that a fully integrated business tax system could be developed and in place by the end of fiscal year 1983. All 25 business taxes were to be on that system. More efficient processing of business tax returns and more effective use of business tax information was to have resolved the litany of problems that have been cited with the Department's past tax processing and collection efforts. Such problems were identified by the Department during the 1970s, by the IBM Information Systems Plan in 1980, by Deloitte, Haskins, and Sells in its conceptual design reports, and by Legislative Post Audit in performance

audits conducted in 1982 and 1985. The Department has often stated that a fully integrated tax system would address most of these concerns.

To answer this question, the auditors interviewed Department officials and reviewed pertinent budget documents and memoranda. Department staff estimate that the system's development is 70-80 percent complete, but some of them have expressed concerns that parts of the system's design are cumbersome, inefficient, or outdated. The Department may soon be able to start processing transient guest taxes on the integrated tax system, but it appears to be far from that point for retail sales taxes despite its published time estimates.

Given the continuing problems with the system's development, there appears to be no assurance that a fully integrated tax system will ever be put into place in Kansas. It appears that serious consideration should be given to stopping the development of the current integrated tax system and realistically assessing the steps that need to be taken to fix or replace that system. These findings are summarized below.

Department Staff Estimate That the System's Development Is 70-80 Percent Complete

Department staff now indicate that the "core" programs of the integrated tax system are largely finished. However, each tax that is "plugged into" the system has some unique features that have to be incorporated into this core system. That requires varying amounts of additional programming, and considerable testing and retesting. Also, before any tax can be operated on the system, the existing information for all those specific tax accounts must be converted and entered into the integrated tax system's master file. For any of the larger business taxes, which have thousands of accounts and up to millions of records, that task could be enormous.

The Department May Soon Be Able to Process Transient Guest Taxes on the Integrated Tax System, But It Is Far From That Point for Retail Sales Taxes

Since January 1986, the Department has been testing the integrated tax system by processing historical transient guest tax returns through the system to ensure that the results correspond to previous results. In addition, it has been converting and entering historical data for the transient guest tax accounts into the integrated tax system's new master file. That step is nearly complete.

As of early March 1987, Department officials indicated that all the problems that surfaced during these tests should be resolved within a month. At that time, the Department will begin processing current transient guest tax returns through the new system. For about six months, the Department will simultaneously process transient guest tax returns through the old manual system. Once any additional problems that surface have been resolved, the Department will no longer use the manual system for transient guest taxes.

According to Department officials, most of the computer programs needed to incorporate retail sales taxes into the integrated tax system have been written but have not been thoroughly tested. Kansas has about 80,000 retail sales tax accounts, which paid in more than $490 million to the Department in fiscal year

1986. Testing the system for processing retail sales taxes will be far more complex and time consuming than the testing done for the relatively small number of transient guest tax accounts. According to Department officials, the number of retail sales tax accounts and transactions is too large to be tested all at once.

In addition, sales tax information that exists on the current automated sales tax system has not yet been converted and entered into the integrated tax system. Because of the years' worth of data that will have to be converted, this conversion effort will take some time. The Department recently formed a task force to determine the most efficient way of converting the existing data to the new system. Once the programs have been written and tested and the current data have been converted to the new integrated tax system, additional tests have to be run on the entire sales tax portion of the system.

Department Officials Are Unable to Say At This Point Which Business Taxes Will Eventually Be Placed On the Integrated Tax System

The auditors interviewed the project leader assigned to the integrated tax system project and the Secretary of Revenue about which taxes they eventually expected to be able to process through the integrated tax system. The project leader said he thought the system would still be able to incorporate all the business taxes originally scheduled for inclusion in the system.

The Secretary of Revenue indicated that the system should definitely include the rest of the excise taxes because they are mirror images of the transient guest tax. Excise taxes include the retail liquor and liquor enforcment excise taxes, the bingo enforcement tax, the cereal malt beverage tax, the gallonage tax, and the cigarette tax. These taxes are among the smallest of the business taxes. They generally have 1,500 or fewer tax accounts, and generate from $700,000 to less than $20 million a year in tax receipts.

The Secretary also indicated that once the excise taxes were successfully placed on the system, the Department should examine the other taxes--such as the corporation income tax and the withholding tax--to determine whether sufficient benefits would be gained by putting them on the integrated tax system.

The two taxes cited here are among the largest--second only to the retailers' sales tax. For example, in fiscal year 1986, there were 36,000 corporation income tax accounts, and receipts from that tax totaled more than $81 million. Withholding tax accounts in 1986 numbered 65,000, and receipts totaled nearly $556 million. If the Department should decide not to put these larger taxes on the integrated tax system, or if it is unable to do so, many of the cost benefits and increased efficiencies initially attributed to the integrated tax system will be greatly reduced.

Department Staff Generally Support the Concept of an Integrated Tax System, But Some Have Expressed Concerns That Parts of the System's Current Design Could Make the System Inefficient and Unmanageable When It Begins to Operate

The auditors interviewed many of the current staff members involved in the integrated tax system's development, all of whom indicated their support for the system. At the same time, however, some of these same people indicated that the

current design of the business integrated tax system had shortcomings that may make it unmanageable and difficult to use. The most frequently cited shortcoming was the design of the system's accounting function, followed by the poor design of the local tax processing function and the use of outdated computer technology. These shortcomings are described briefly in the sections that follow.

GENERAL INFORMATION ABOUT BUSINESS TAX SYSTEMS IN SURROUNDING STATES

The auditors contacted staff in the surrounding states to determine what kinds of tax systems they had. Although the auditors were unable to obtain detailed information about actual similarities and differences between those states' business tax systems and Kansas' integrated tax system, it appears that Kansas' system is among the more complex. To greater or lesser degrees, all the states contacted are tackling the process of integrating their business tax processing systems. Also, officials from every state indicated that the development of their systems was both lengthy and costly. General information about tax systems in surrounding states is presented below.

Oklahoma Unlike the "master file" database of business tax information that would be created for Kansas' business integrated tax system, Oklahoma's business tax system maintains information about each business tax in separate computer databases. However, because business taxpayers have a single identification number, information from each business tax can be pulled together to provide summary information about an individual taxpayer. Accounting and collections programs are also maintained in separate computer databases. Oklahoma originally anticipated that its business tax system would take seven years to complete at a cost of $13 million, but the project has not received that much support. Currently, only programs for sales tax and franchise tax are complete.

Nebraska All business tax information is stored in a common master file, and business taxpayers have the same identification number for all their business tax accounts. The system has a separate accounts receivable file.

Missouri Under Missouri's business tax registration system, taxpayers are given the same identification number for all their business tax accounts. All sales tax accounts are currently on Missouri's central registration system; withholding tax will be placed on the system next. Missouri plans to add financial and accounts receivable programs to the system at a later date.

Colorado Colorado is in the process of incorporating all business taxes into a system that should be in operation by 1991. If Colorado meets that deadline, total development time for this system will have been about eight years. The accounts receiveable part of that system is already in operation, and a common registration program is ready to go.

Inefficiencies in the integrated tax system's accounting function may place a drain on the State's computer storage capacity and could limit the Department's ability to respond to taxpayers' inquiries. The current design takes a manual double-entry accounting system and automates it. According to some Department staff, such an accounting system is inefficient

because it requires that data be entered several places in the computer's files when one entry would suffice. Also, the design requires a substantial amount of the computer's storage capacity. There is some concern that this will limit the amount of taxpayer information that can be stored on-line.

In addition, in a system as complex as the integrated tax system, one of the most important elements of the design is determining what the people who will use the system need to get out of it. The auditors interviewed many of the people on the Department's staff who will be the key users of the integrated tax system. Some of them said that, during the detailed design phase, Deloitte, Haskins, and Sells had never discussed with them the kinds of information, summaries, and reports they would need from the integrated tax system to improve their ability to respond to taxpayers' inquiries.

For example, the auditors were told that the new system will not provide summary information on one computer "screen" for an individual taxpayer as is currently done. That information will be organized and separated by month, so that no more than one month's transactions can be viewed at a time. Under the system that is currently being used, taxpayer information is organized in a continuous fashion. Some staff members expressed concern that the new system would apparently make it more difficult for them to answer taxpayers' questions about the status of their tax accounts.

Although processing local sales taxes is a key activity of the Department, the integrated tax system lacks the necessary support for processing those taxes. Localities in Kansas are increasingly implementing local sales taxes, which businesses submit with the remittances they owe for State sales taxes to the Department. The Department is responsible for ensuring that the local sales tax receipts are distributed back to the appropriate local units of government. During their interviews with the auditors, Department staff commented on the poor design of the local tax processing function. They said that the system needed to be enhanced to provide users with on-line information about those taxes. Such information would then allow them to respond to taxpayers' inquiries.

Some technical staff indicate that parts of the current design will represent a "step backwards" in technology. In fact, some parts of the system are less technologically advanced than the Department's current tax processing systems. For example, the current data entry system uses on-line computer technology (taxpayer information can be entered directly into the computer's files). Under the business integrated tax system, taxpayer information typed onto a keyboard will be entered onto a separate data disk, that will then be entered into the taxpayer's computer file.

The Department Has Not Provided Updated Cost Estimates, But On-Going Expenditures For the Next Several Years Have Been Estimated at More Than $500,000 a Year

Since the consultants left, the Department has incurred only in-house personnel and data processing costs. It has not prepared any estimates of how much it would cost to fully implement the integrated tax system, but some estimates of annual expenditures are available.

In the Department's fiscal year 1988 Information Systems Plan, expenditures for data processing services, computer storage, and the use of terminals and printers are estimated at about $330,000 each for fiscal years 1988 and 1989. Data processing expenditures for fiscal year 1987 were estimated to be $115,932. For the first seven months of the fiscal year, actual data processing expenditures have totaled about $26,000.

On-going personnel costs have been about $183,000 per year. This number is somewhat understated because it computes programmer expenditures using hours actually charged to the project rather than monthly salaries. The figure also excludes fringe benefits.

For the first seven months of fiscal year 1987, nine people worked on the integrated tax system project. These included a project leader, four full-time programmers, two part-time analysts, and two full-time analysts. The Department has recently assigned three additional people full-time to work on the conversion team for the sales tax portion of the project. It is anticipated that these three people will work on the tax system full-time as soon as transient guest tax is implemented. When they do, on-going costs will increase by about $73,000 per year.

The Department's Time Estimates For Completing Parts of the System Are Misleading, and at a Minimum Suggest the Department Is Vastly Underestimating the Magnitude of the Project

Department officials have estimated that transient guest tax information will be able to be processed on the integrated tax system in 1987. However, they would not give the auditors a firm estimate of when they thought sales tax accounts would be placed on the system. Their estimates ranged from next year to 1995. The Department has provided firm estimates in other sources, however. For example, the Governor's budget for fiscal year 1988 states that retail sales tax accounts should be incorporated into the integrated tax system during the current year.

The Department also stated that sales tax accounts would be incorporated into the integrated tax system by the end of fiscal year 1987 in its fiscal year 1988 Information Systems Plan, prepared in November 1986. According to that plan, all 25 business taxes would be placed on the integrated tax system by fiscal year 1991 as well.

These published estimates appear to be very unrealistic. Without a significant increase in staffing and resources, it seems clear that the Department will not be able to place the retail sales tax on the integrated tax system this year or in the near future. That tax--or any of the other business taxes--cannot be incorporated onto the system until it has been thoroughly tested, the historical information for that tax has been converted and entered into the integrated tax system's database, and the staff has been adequately trained. The prognosis for getting any of the other major business taxes onto the integrated tax system at this point seems minimal at best.

Conclusion

It is clear that the current tax systems in place in Kansas are inadequate and inefficient, and that the State needs an improved system for collecting, processing, and administering its business tax system.

An integrated tax system in Kansas offers the advantages of increased efficiency in the Department of Revenue's tax processing, administration, auditing, and collection efforts. It would benefit taxpayers and administrators alike.

Unfortunately, the development of a business integrated tax system in Kansas has been plagued with problems since its inception. The Department of Revenue and its consultants have consistently underestimated the complexity of developing an integrated tax system, and have consistently missed their targeted deadlines. Those problems continue to this day.

The Department is currently working on the system without a realistic long-range plan or realistic time or cost estimates. Nearly seven years after the project was started, only one small tax will be ready this year to be processed on that system. The Department can provide no assurances that a fully integrated tax system will ever be implemented, or that a scaled-back version of the integrated tax system will work well for the taxes that might be included in it.

Recommendations

1. The Department of Revenue should continue its efforts to place the transient guest tax system onto the Kansas Business Integrated Tax System, but all further development efforts on the integrated tax system should be halted immediately.

2. The Department should reassess its business tax processing objectives and the ability of the Kansas Business Integrated Tax System to meet those objectives. Following that reassessment, the Department should develop a firm, long-range plan for upgrading the State's ability to efficiently and effectively process and collect business taxes in Kansas. That plan, which should be submitted for legislative consideration, should include realistic cost estimates and attainable deadlines. Elements of this plan should also address provisions for a full-time project manager, adequate resources, and continuity in personnel.

3. As it develops this long-range plan, the Department should consider the cost-benefit implications of the following options:

a. Continue developing the Kansas Business Integrated Tax System, making certain that the problems identified in this report are thoroughly studied and adequately resolved.

b. Discontinue the development of the Kansas Business Integrated Tax System, and upgrade or replace the Department's current individual systems for administering the various tax systems on a tax-by-tax basis. This option would allow the Department to address many of the efficiency problems that have been identified in the past, but would continue the current practice of a non-integrated tax system.

c. Discontinue the development of the Kansas Business Integrated Tax System, and start over to develop an integrated system that will adequately improve the State's system for collecting, processing, and administering business taxes.

4. Whatever action the Department ultimately takes, it should seek assistance and guidance as needed from the Division of Information Systems and Communications. If additional consultants are hired to work on the project, the Department should involve the Division as well, and should ensure that the kinds of problems identified in this report with the Department's oversight and review of the contract process are not repeated.

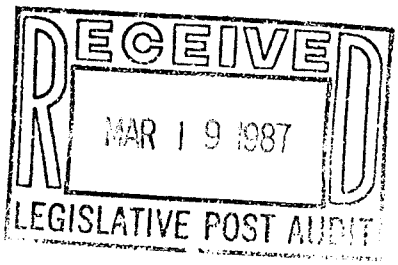
APPENDIX A

Agency Response

On March 13, 1987, copies of the draft audit report were sent to the Department of Revenue. Its written response is contained in this appendix.

KANSAS DEPARTMENT OF REVENUE
Office of the Secretary
State Office Building · Topeka, Kansas 66612-1588

March 19, 1987



Mr. Meredith Williams
Legislative Post Auditor
Legislative Division of Post Audit
301 Mills Building
Topeka, Kansas 66612

Dear Mr. Williams:

The Department of Revenue has reviewed the draft Legislative Post Audit report dated March 13, 1987 entitled, "Problems Implementing the Kansas Business Tax System (K-BITS)". Given the complexity of the subject, the nature of the findings, conclusions and recommendations contained in the audit report, the department's response is necessarily lengthy.

When the department was advised that a performance audit was to be undertaken on K-BITS, we were encouraged that potentially much could be learned from an independent review of K-BITS. It is apparent that the eight weeks allotted is much too short a time to review this complex tax processing system and coordinate a true performance audit.

Such a "performance audit" on a computerized financial tax processing system would have required the wearing of many hats: computer systems analyst, financial accountant, and business analyst. The concern of the department is that the "audit" simply represents the accumulation of discrete facts about K-BITS and its development, but very little independent analysis of the system.

The audit report bases many of its conclusions on unverified "opinions", "perceptions", and "out-of-context" statements. The failure to penetrate these opinions and evaluate them leads to unsubstantiated recommendations. The report also fails to recognize that K-BITS is not an island unto itself, but rather a project within a large organization that has several missions. What the department

had anticipated was an integration of the facts into a report which would provide an insight into the problems, decision factors, prioritization of internal programs against legislated programs and other trade-offs associated with govenmental management. This balance is not evident.

Therefore, the department can not agree with the audit report recommendation to terminate K-BITS and conduct a long-range plan following the implementation of transient guest tax because:

a. The recommendation ignores the integration between transient guest tax and sales tax and the significant work that has already taken place on sales tax development. The extent to which they share features and shared code is illustrated by the fact that of the 191 batch programs that have already been coded and tested only 22 are transient guest tax specific.

b. Transient guest tax would not be an effective yardstick on which to evaluate either the performance of K-BITS or its effectiveness in meeting business tax processing problems. An examination of sales tax under K-BITS is a critical element in determining the effectiveness and efficiency of the K-BITS design.

c. As the audit report appropriately indicates, the problems identified in 1980 are the same as those we face today. For example, the accounts receivable for sales tax has increased from $7.5 million in 1980 to approximately $26.7 in 1986. Development of a new design to respond to today's problems would contain many of the same features present in the K-BITS design.

The department believes the appropriate steps are to implement transient guest tax and sales tax and perform a post implementation review before integrating any additional taxes under K-BITS.

The remainder of this document contains the department's response to the audit report which will address in greater detail the specific concerns the department has with the audit.

I. Disagreements of a Factual Nature

A. Payments to Consultants

The department did not, as asserted on page 14-15 of the audit report, pay the consultant an additional $20,000 to work 20 days beyond the contract termination date. The total cost of the contract, $483,592, represented the entire amount paid to Alexander Grant and Company.

B. K-BITS Design Issues

Three "shortcomings" in the design were reported on pages 19-20 of the audit report. The audit report appears to have taken personal opinions, used them out-of-context, and represented them as fact. The department feels that further clarification of these issues is needed.

1 a. Accounting Function: Financial integrity is at the heart of any good tax processing system. Lack of financial integrity in our present business tax systems was the driving force behind the agency's desire to develop K-BITS. While the department has not been satisfied with the project management expertise of Deloittte Haskins & Sells (DH&S), it is **not** prepared to conclude that a Big Eight certified public accounting firm with experience in designing computerized accounting systems developed an inefficient accounting system with K-BITS. However, the department would not wish to understate the difficulties associated with the implementation of a complex financial accounting system.

To determine whether the present K-BITS accounting system is inefficient would require personnel with combined expertise in governmental accounting systems and data processing. No one in the Department of Revenue has these expertise. It is the department's opinion that conclusions were made in the audit report in the absence of an analytical review of this issue. Efficiency is essentially an issue of performance. That review should properly take place during post-implementation review of sales tax.

The department would welcome and encourage an independent review of this issue during the post-implementation review period.

1 b. On-Line Support

A second concern raised by the audit report relates to on-line support to taxpayer inquiries. In essence, the audit report concluded that K-BITS is different from the current business tax systems in this respect. That is certainly true. However, the audit report seems to conclude, or at least repeat the conclusions of "others", that this constitutes a problem.

With integration of multiple taxes, the complexity and costs associated with displaying information on-line increases exponentially. The ability to determine the accounts receivable status of a business via an on-line screen is supported in the K-BITS design. This is available by multiple taxes as well as by each tax separately. If the taxpayer challenges the accuracy of that data, it is true that it will be necessary to page through multiple screens. It is also true that at some point in the examination of the account, the department will have to rely on microfilm copies of returns and related adjustment documents in order to fully review the account.

If the audit report had examined the continuous screen feature present in the current sales tax system the report would conclude that review of the account by filing period, a requirement in communication with difficult accounts, is burdensome at best. When multiple local taxing jurisdictions are involved increased complexity is introduced.

What the audit report failed to address in the discussion of the accounting function of K-BITS are design "trade-offs". Posting accurate data to the Business Master File more quickly will significantly increase taxpayer and agency personnel confidence in the computerized data. That confidence will significantly reduce the number of taxpayer complaints with the current system and reduce the number of financial adjustment documents currently being processed in the sales tax system due to erroneous postings.

Finally, the audit report failed to take note of the significance of filing period accounting. The department's statutory requirement to update interest monthly is not supported in the present sales tax system. Filing period accounting supports that requirement in

addition to supporting the revenue estimating process. Associating business tax liability by filing period offers another degree of precision to the state's task of accurately predicting State General Fund receipts associated with the processing of business taxes. The department's present system only supports "process month" accounting which is often subject to available manpower in the key document processing bureaus. K-BITS will support both process period and filing period accounting. Again, the issue is one of trade-offs and to evaluate a design solely on the basis of "opinions" of some employees working on the system creates indefensible conclusions. The other users of the system include the taxpayer, the legislature, and departmental management.

2. Local Sales Tax Issue

The issue of local sales tax processing and its relationship to on-line support is currently being reviewed within the agency. Again, the issue of design trade-offs is relavent. To provide "on-line" information display at the level of detail suggested by some of those quoted in the audit report must be evaluated against issues of system performance and measured benefit. For example, the number of I/O's (input and output read/writes) to support each inquiry vs. other methodologies needs to be examined. The conclusions of that analysis should then be reviewed through post-implementation analysis.

Again, the Department is concerned with the inclination of the audit report to simply repeat "opinions" and "perceptions" out-of-context and in the absence of an independent analytical review.

3. K-BITS design "step backwards" in technology

Of all the impressionistic conclusions contained in the audit report, this is the most disturbing and misleading. K-BITS does **not** represent a step backwards in technology nor does it represent "less technologically advanced processing" than currently exists in the department's current tax processing systems.

A major problem with the current tax systems is that erroneous data is posted to master files. The K-BITS design establishes a Work-In-Process (WIP) file for the express purpose of getting data into a temporary file quickly without sacrificing financial integrity. The assertion that the curent tax systems at data entry represent

advanced technology compared to the use of a key-to-disk system (CADES) for K-BITS is misleading.

The current tax systems rely on "on-line" edits whereby the data entry operator is prompted through the entry of return data until certain edits fail. This has the effect of "delaying" initial entry in general and in the worst case relegates portions of the entry staff to performing error resolution functions. This represents inefficiency in personnel management and slows initial posting to a temporary file. Worse still, it represents a compromise between the extent to which a return can/should be throughly edited vs. the time necessary to accomplish the task.

While there is no technical reason that K-BITS could not have adopted the current tax processing data entry philosophy, there are many business and document processing reasons why it was not selected. One of the business reasons is that the CADES system was purchased by the department in September, 1986. Other than monthly maintenance fees, it represents a previous departmental investment. The purchase cost for the system has already been made. Secondly, separating data entry from error resolution functions promotes efficiency.

With K-BITS, on-line entry is not limited to corrections to the WIP File **prior** to Master File posting. On-line support is also provided at tax registration and file inquiries. In other words, there are times when on-line processing is not the most efficient design decision.

By inference, the audit report suggests that other examples exist that illustrates that K-BITS is a "step backwards" in technology in comparison with the current tax systems. The department would be interested in the auditors providing other such examples.

II. K-BITS ESTIMATING PROBLEMS

Much has been made in budget hearings and now in the audit report about the Department's inability to accurately estimate completion dates and project costs for K-BITS. The audit report points out on page 5 and 15 that K-BITS was estimated to be on-line by June, 1983. What the audit report neglects to point out is the assumptions on which those estimates were made were:

- Legislative authorization of nine (9) new technical positions.

Only three technical positions were authorization

- Authorization of $1.275 million in consulting monies, $450,000 in FY 1982 and $825,000 in FY 1983. Only $1.145 million was authorized and the competeive bidding process resulted in only $1.07 million actually being expended.

- Increased assignment to the K-BITS project team of current Departmental analysts and programmers.

- That consultants would perform their responsibilities in an effective manner.

The State of Kansas purchased Systems Development Methodology (SDM-70) in 1981. SDM-70 is a system that provides guidance to systems development personnel in designing and implementing computer systems. This methodology was not available to the department in the early days of K-BITS development to assist in our development or in estimating work associated with budget requests for the project.

The department requested that the audit report consider SDM-70 in order to appreciate the dynamics involved in estimating completion dates and costs at various stages in the systems development life cycle. A single sentence statement in the audit report , "However, the estimates were made before the conceptual design of the project was finished" doesn't do the issue justice.

According to the SDM-70, "When making future projections of the costs, the accuracy of such projections will vary depending upon the point in the system life cycle at which the projection was made". **For example:**

-Completion dates and associated costs are not very meaningful if made anytime before the detailed external specifications are developed. SDM-70 indicates that the possible **variation** could **exceed 100%.**

-Even at the conclusion of detailed external specifications, costs can be expected to vary 20-30%.

The audit report states that the department has expended approximately $2.8 million dollars to date on K-BITS development. In light of SDM-70 guidelines and the point in the project at which the two completion estimates were made that are referenced in the audit report, June, 83 and the end of Fiscal Year 1986. It should not be either surprising or particularly alarming that the department has missed its estimates.

What should be comforting is that the department has weathered many storms along the way and, for all practical purposes, implemented transient guest tax and believes that sales tax and can likewise be implemented under K-BITS.

Utilizing the audit report figures concerning on-going K-BITS costs of $500,000 per year and assuming that it would take two additional years to implement sales tax under K-BITS, the total cost of implementing transient guest tax and sales tax under K-BITS would be approximately $4 million. The audit report cites the State of Oklahoma as estimating $13 million for a business tax system. The cost issue has been addressed in the audit report without consideration of the economic benefits of K-BITS, another issue the department encouraged the audit report to examine.

III. Miscellaneous comments

The department feels that there are additional points which need to be clarified before turning to the conclusions and recommendations of the audit.

- The major purpose of a tax system is to insure that taxpayers are paying what is owed and not necessarily to insure that everyone's job in the department remains the same. It is recognized that the degree of difficulty associated with some jobs within the department will be increased with the implementation of K-BITS.

- The department is not making a claim that K-BITS is a perfect system. It is, however, making a claim that it represents a significant processing and economical benefit over the current system.

- The department takes exception to the audit report's

statement that vague and imprecise IFB's have contributed to the communication problems between consultants and agency staff. The department followed SDM-70 guidelines in the preparation of its IFB's.

- The issue of "level of detail" as it applies to program specifications is not a black/white issue. There is no universal standard as to what consititutes adequate level of detail. Ultimately it depends on who is being requested to do the coding and the particular knowledge, skills and preferences of the programmer.

IV. Agency Management Issues

The department's concern about the audit report's failure to provide a balanced examination of the decision-making process that accompanies system implementation in a large agency is illustrated by two (2) examples:

1. Business Decision Process

The audit report states that the department made payments to consultants before all the work was completed in an acceptable manner and that the department modified the contract with AG&Co. such that they were no longer liable for management of the completion of K-BITS. While both are accurate statements in themselves, the audit report neglected to examine the reasons for those agency decisions. In both instances, the best business judgment was applied in order to enable the department to continue toward its ultimate objective; the earliest possible implementation of a computer system that would respond to the many tax processsing and accounts receivable problems that plague the department.

Accordingly, to avoid litagation and its associated delays and expense, the decision was made to get the most out of each consultant firm possible. In the department's judgment, that was accomplished. As the audit report states, the department continued to get revised output from DH&S for five (5) months after the last payment was made. Due to the deficiencies of DH&S staff working on K-BITS, our technicians concluded that we had received all which that firm could accurately and effectively accomplish.

Regarding AG&Co., the problems of hiring a consultant firm that felt no responsibility for the design they were required to code and implement were insurmountable. Their lack of background in the design in general and the department's processing environment in particular consitituted obstacles that were impossible to overcome. This is particularly true when they won the contract on such a low bid, in excess of $200,00 less than was available for the project, and the program specifications had so many problems. Again, the department made a business decision to accomplish the most possible under difficult and trying circumstances. In the department's judgment, that was accomplished.

2. Agency Priorities: K-BITS

The audit report states that K-BITS appears to lack a high priority in the agency and that staff have been assigned from K-BITS to other projects and that some vacancies have not been filled and reassigned to K-BITS. Again, the discrete facts are accurate. However, the audit report failed to examine the matter to determine why decisions were made.

The agency has certain projects whereby delays in their implementation are more serious than delays in implementation of K-BITS. For example, VIPS, statewide reappraisal, implementation of minerals tax, and legislative modifications of sales tax law to name but a few. In most instances, the agency is not authorized sufficient resources to implement projects in a timely basis: something has to give. In the last couple of years, K-BITS has had to adjust to these factors.

This is not to say that K-BITS is not a significant project in the department nor that it no longer holds the potential for addressing agency processing problems as once envisioned. The point is that agency priority decisions have to be made with the total agency mandate in mind.

V. Comments on Audit Report Recommendations

The audit report fails to adequately represent the current status of the project nor does it indicate the interrelationships between transient guest tax development and that of sales tax. For that

reason, the recommendation on page 21 that "the Department of Revenue should continue its efforts to place the transient guest tax onto the Kansas Business Integrated Tax System, but all further development efforts on the integrated tax system be halted immediately" is unworkable and inappropriate.

Much is made in the audit report about the fact that transient guest tax represents only 425 accounts out of the approximately 233,000 business tax accounts that would be potentially processed under K-BITS. Two points need to be made on this issue:

1. The number of accounts processed through a series of programs is irrelevant when making conclusions as to the amount of design work completed to date vs. the amount of work yet to be completed.

   What is relevant is the extent to which processing one tax, error free, might say about the design in general and the potential for completing similar taxes in the future.

2. With an integrated tax system, considerable shared code exists. This is particularly true with K-BITS. For example, of the 191 batch programs currently coded and tested in K-BITS, only 22 represent transient guest tax specific programs.

A. Recommendation #1

The Department has a substantial investment in completing both transient guest tax and sales tax under K-BITS. It would be foolhardy to stop with transient guest tax only. The issues of efficiency, performance, and potential for additional tax implementations under K-BITS can best be measured with sales tax implemented. At that point, the department would welcome an extensive EDP and/or financial audit designed to address the adequacy of the design.

B. Recommendation #2

The Department has always intended, through post-implementation review of sales tax, to assess K-BITS in terms of whether it meets agency business tax processing objectives. We would be happy to provide the Legislature with a copy of our findings.

C. Recommendation #3

The department can not agree with the options presented in the third recommendation of the audit report. The only viable options are:

1. Discontinue the integration of additional taxes after sales tax implementation and examine other system solutions to the processing of the remaining business taxes.

2. Develop a set of implementation criteria for the selection of each additional tax under the K-BITS design and proceed one tax at a time.

The option of reinvesting years and millions of dollars developing a new system designed to address the same processing problems existing in the agency would be foolish. The "new" design would in most cases be a mirror image of the current K-BITS design.

D. Recommendation #4

The department continues to value the guidance and assistance of the Division of Information Systems and Communications. We anticipate a continued good working relationship. The department does not concur with the audit report comment that the Department of Revenue failed to properly perform oversight and review of the contract process with consultants.

In summary, the department would not wish to leave the impression that it performed every task and function associated with the K-BITS project in an exemplary fashion. Mistakes have been made. Much has been learned from the process that should alert us, and hopefully other agencies as well, to the risks and difficulties of large systems development and implementation. Our experience in working with consultant firms has also left us wiser and more prepared should future consultant engagements be necessary.

On the other hand, the department wishes to make clear that the K-BITS experience should not be viewed as a failure. A clear

understanding of the circumstances involved in the process and a knowledge of the complexities encountered should lead one to conclude that the project has continued to progress toward a successful implementation. The ultimate implementation will result in benefits to the department far in excess of the costs.

Should you wish any additional comments or information regarding the subject of K-BITS, please let me know.

HTD/...

Sincerely,

Harley T. Duncan
Secretary of Revenue