MINUTES OF THE MEETING OF THE APPROPRIATIONS SUB-COMMITTEE ON ELECTED OFFICIALS AND HIGHWAYS

February 3, 1983

(Tape 49, Tape 50 and Tape 51, Side A)

The Appropriations Sub-committee on Elected Officials and Highways met at 8:00 a.m. on February 3, 1983 in Room 437 with Chairman Quilici presiding. The following members were present:

Chairman Quilici	Senator Dover
Rep. Connelly	Senator Keating
Rep. Lory	Senator Van Valkenburg
	Senator Stimatz

Also present: Cliff Roessner, LFA, and Doug Booker, OBPP. Leo O'Brien, LFA, was present for the Work Session.

HEARINGS

DEPARTMENT OF ADMINISTRATION

Computer Services Division

Mike Trevor, Administrator of the Computer Services Division, distributed Exhibit 1 to the committee which contains his entire presentation with an index on page 1. Mr. Trevor said at present this division has 127.45 FTE's. The recent reorganization has resulted in a stream-lining of his division.

In answer to a question from Senator Dover, Mr. Trevor said they keep track of the time the employees work in the different bureaus by keying into the computer by tenths of hours. They use this for billing as well as payroll.

Computer Services Subprogram 71

In answer to a question from the Chairman, Mr. Roessner noted that the 7 FTE's that were left out by the LFA was due to the fact that the LFA pulled these figures out during the time the division was reorganizing and these FTE's were not included as they should have been.

In answer to a question from the Chairman regarding the growth of computer utilization and the possible reduction in FTE's, Mr. Trevor said that even though there is a possible reduction in FTE's in some cases, the end result is better service to the users by the information the computers are able to provide.

(Tape 50, Side A)

Minutes of the Meeting of the Appropriations Sub-committee on Elected Officials and Highways, February 3, 1983, Page 2

Systems Development Bureau Subprogram 73 (Page 3 of Exhibit 2)

The issues regarding this subprogram appear on page 6 of Exhibit 1. Mr. Trevor explained that with their reorganization they have eliminated several positions of Grade 17 level in management positions and he feels they have a good working staff that is the workforce they need.

Mr. Trevor told the committee that turnover is one of their biggest problems. They hire from the universities and outof-state, unlike most of the other departments. They also have a problem with agencies hiring people from the Computer Services Division after the division has trained them. He explained that under item 3 on page 6 of Exhibit 1 the recruitment expenses are for ads they place out-of-state.

The committee and Mr. Trevor discussed at some length the responsibility for accepting or rejecting agencies' requests for computer services. Mr. Trevor said the agency itself is responsible for this decision and in the past Mr. Trevor's division has not been completely involved in this decision. Mr. Trevor said that now that they are going to take more responsibility in the decision-making process of whether or not a certain request should be considered. He explained that many times the division could show the agencies a cheaper and more effective means to get the same result. He also told the committee that House Bill 427 would transfer this control and coordination authority from the Budget Office to the Department of Administration.

Records Management Subprogram (Page 2 of Exhibit 2)

Mr. Trevor continued with his presentation on page 6 of Exhibit 1. Mr. Ed Eaton is manager of this subprogram. Mr. Trevor explained that this program is increasing its service to the agencies by 25% each year. He explained the method by which this program provides microfiche to other agencies. The committee discussed the possibility of the Supreme Court microfilming project and the Secretary of State microfilming project. It was noted that 1.5 additional FTE's would be needed if both these projects are approved.

(Tape 49, Side B)

Mr. Trevor explained that there is an additional cost of building rent which he felt was not included in the budget and that this figure would have to be adjusted. (Exhibit 2)

In answer to a question from Senator Dover regarding whether or not this system is keeping up with new technology or if the whole system will have to be replaced in a few years, Minutes of the Meeting of the Appropriations Sub-committee on Elected Officials and Highways, February 3, 1983, Page 3

Mr. Trevor said the system is keeping up with current technology to a practical extent. He said they try to keep close enough to the new announcements so they are getting the full support of the vendors. He said he has talked to the designers in IBM and has been assured that the system is up-to-date and is still practical enough to handle the volume of work. Montana is small enough so they can make changes that some of the larger states cannot do.

Mr. Trevor addressed items 4, 5, and 6 on page 5 of Exhibit 1. (301) He pointed out that the training materials listed in item 4 are not just for the Computer Services Division. They are for all data processing personnel throughout state government. He felt this was a very cost-effective way to train state employees.

In answer to a question from Senator Keating, Mr. Trevor said they buy paper by the freight car load through Stores Inventory.

The committee discussed at length the difference in the figures under "Repair and Maintenance". Mr. Trevor said that IBM is experiencing a good deal of competition in the initial cost of equipment so the cost of the equipment is going down. However, in order to recover these costs they are charging more for software and repair and maintenance. This is why they are reflecting a higher inflation rate than the LFA. Mr. Trevor also noted that the service they need for their 24-hour per day computer is not available from other sources than IBM because of the geographic locations of the other service providers.

Under "Supplies and Materials" Mr. Trevor said they would need \$20,000 in each fiscal year from COM.

(Tape 50, Side B)

Mr. Trevor continued his presentation on page 7 of Exhibit 1. The committee discussed the necessity for microfilming the records for the Supreme Court. It was not clear just what type of documents these would be other than the fact that they are very old and are deteriorating. The committee requested more information as to just what the purpose of the microfilming would be and what kinds of records are being considered to be microfilmed. (141)

Discussion by the committee on how the division contracts with each agency for particular jobs. Mr. Trevor said they negotiate the workload and the expenses before the project is begun. Minutes of the Meeting of the Appropriations Sub-committee on Elected Officials and Highways, February 3, 1983, Page 4

The Chairman asked Mr. Trevor if he could continue his presentation at the committee's next meeting as the Water Courts Work Session is scheduled for the remainder of today's meeting.

The committee recessed briefly at 10:50 a.m.

The committee reconvened at 11:15 a.m.

WORK SESSION

Water Courts

Mr. O'Brien explained Exhibit 5 to the committee. Leanne Schraudner said that \$275,000 will be spent in the remainder of FY83 as opposed to the \$395,000 which has been projected.

Mr. O'Brien said that the earmarked revenue account will be depleted sometime in March. This account funds the DNRC and the Water Courts. Ms. Schraudner explained that the revenue didn't come in as it had been projected. It was noted that the \$395,000 was projected as spending authority. The committee discussed funding possibilities in an effort to keep the general fund intact with regard to this particular budget.

Dick Gilbert of the Fiscal Analysts office said they have projected by the end of this biennium the RIT will be overextended. There is an expected reversion of \$210,000 at the end of this fiscal year. This will still result in a negative balance of \$80,000. Carrying this negative balance into the next biennium and considering the generated revenues, they subtracted the RIT money incluced in DNRC, State Lands and 30% for Water Development. This would result in a balance in 1985 of \$1,626,000. (See Exhibit 6) The Governor's office has replaced general fund with RIT money for the 1985 biennium for the departments listed on Exhibit 6. (433)

In answer to a question from Senator Keating, Mr. Gilbert said the RIT money comes from taxes on businesses or individuals engaged in mining, the extraction or production of minerals. This tax includes a \$25 flat fee plus 1/2 of one percent on the gross value of the product at the time of extraction for the prior calendar year, if in excess of \$5,000.

Senator Keating said if the Governor's projection of \$36 per barrel of oil has been used the RIT might be in trouble right now. Minutes of the Meeting of the Appropriations Sub-committee on Elected Officials and Highways, February 3, 1983, Page 5

Senator Keating made a MOTION that the committee approve the the agency request for $\overline{11.5}$ FTE's and the expenditures for their total program as requested.

Discussion. Ms. Schraudner, in answer to a question from Senator Van Valkenburg, said that they projected the use of the new docket system would be an initial capital outlay of \$25,000 to \$30,000. Projected over the years, when other users are added they will realize a \$19,000 pay-back. The actual cost would then be \$8,000 to \$12,000.

Senator Van Valkenburg noted that there was no reduction in the FTE's relative to the installation of the docket system. Ms. Schraudner explained that the system wouldn't see its full potential until FY85 or FY86.

The committee discussed the pay-back system regarding the DNRC computer disk and Ms. Schraudner explained to the committee how she understood this would work. As other users are added to the disk they would pay back the Water Courts for their use of the disk which the Water Courts had paid for. She said this was explained to her as renting a building and initially paying all the rent. Then as other renters came into the building they would pay the initial renter for their portions of the building.

(Tape 51, Side A)

Judge Lessley and Ms. Schraudner both told the committee that they felt this new docket system on the computer at DNRC is going to save them an enormous amount of time in addition to being more accurate than a manual operation. Senator Van Valkenburg expressed his concern that this was just the first phase of an expensive computerized operation as the committee has had this experience in past sessions.

Discussion.

Question being called for, the motion carried. (76)

The Chairman said there will be a meeting of the Budget Office, the LFA and the DNRC to discuss this funding.

The meeting adjourned at 11:50 a.m.

Joe Quilici, Chairman dm

Department of Administration Computer Services Division

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Information for Budget Hearing on Thursday, February 3, 1983

The following packet of information outlines the division's budget presentation and relevant issues. The information is organized as follows:

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Department of Administration Computer Services Division General Information

The Computer Services Division is a service organization funded solely by revolving funds. The Division was reorganized in June of 1982 and now provides the following types of services:

Computer Processing

Around the clock service, 24-hours a day, 7-days a week including: Batch processing; Time Share Option (TSO); Transaction Processing (CICS); Remote Job Entry (RJE); Text Processing (ATMS); Legislative Bill Drafting (ALTER); and Point of Sale Cash Register processing.

Data Entry and Word Processing Services

Keypunch Services

Word processing input to ATMS

Text transmission from and to various devices such as OS/6, Display Writers, and Quadex Phototypesetter system.

User Services

Problem resolution

Network services for approximately 500 terminals

General assistance in the use of computers

Systems Design and Programming

The Systems Development Bureau (SDB) provides a full development service for State Agencies (including a recent addition specializing in small systems such as microcomputers).

Data Management and Technical Services

We provide highly specialized expertise in all technical areas of computer technology. Training is given to agency personnel in formal classes and through project involvement and assistance. The sharing of large data files is encouraged and the tools to do it are provided by these groups.

Records Management

Microfilming, computer output micro-film (COM) services, records storage and general records management assistance services are provided.

Justification for One Revolving Account

The LFA budget on page 264, under the subheading <u>Funding</u>, states that the combining of three revolving accounts into one accounting center "causes some concern". We feel that the establishment of one accounting center (ie, a single revolving account) is most efficient and very much consistent with other efficiency changes made when Computer Services Division was reorganized in June of 1982. Our current practice of producing monthly income and expense summaries provides a "ready means of scrutiny" into the cost recovery status of the subprograms within the division.

Our reasons for operating with one accounting center go beyond the obvious savings in administrative overhead required to operate one rather than three separate accounts. We feel that the following points justify the single account.

Cash Flow

An operating cash balance level sufficient to keep an account in the "black" during temporary increases in expenses or declines in income must be maintained in each account. Using one account the smaller subprograms can be managed to simply breakeven rather than increasing the rates to the extent necessary to build-up an adequate operating balance in each separate account. This is possible because the computer operations portion of the total program is sufficiently large enough (ie, 87% of all income and expenses in the total program) to provide operating cash during times of temporary deficiencies in the individual subprogram areas.

Accountability

The current accounting structure used by Computer Services Division is consistent with generally accepted accounting procedures. CSD uses several profit centers (called Responsibility Centers in the State's accounting system) to provide complete accountability of Division financial activities. Monthly financial statements are published by the Division to give management and others concerned an accurate picture of the financial status of each bureau charged with being self-supporting. These monthly financial statements actually provide a better indication of financial condition than could be provided by separate accounting centers.

Transfer of Funds, Subsidies, etc.

All of the Computer Services Division's services are related to processing and managing information. We can most effectively handle the wide range of tasks by making specialists within the division available to work in any subprogram area needing their skills. Clerical level employees are utilized across subprograms to satisfy a peak load requirement in one area while the other area has slack time. Through this type of matrix management of personnel throughout the division we are able to operate with fewer people (FTE's) than we would if we established an adequate number of FTE in each subprogram area. We also reduce the unproductive business of continually hiring temporary help and laying people off. This type of management necessitates transfer of funds and paying personnel from more w than one subprogram. It can be accomplished with separate accounting centers but its a lot easier with one account.

Subsidies may happen when one subprogram or another fails to recover all costs at fiscal year end. However, all subprograms will continue to be managed to "break-even" each fiscal year. Rates will be adjusted and costs managed accordingly.

The most important point is that this division should be focussing its efforts toward providing cost effective services to the agencies. It is unproductive to get bogged down on cost recovery concerns and internal procedures that will in no way improve those services.

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Department of Administration Computer Services Division (Program 07) FY'84 - FY'85 Biennium Budget

Computer Services Subprogram 71

- Seven (7) FTE's need to be added to the LFA budget. These 7-FTE's were evidently left out due to an oversight, since more than enough salary and benefits for our full 92.45 - FTE's was provided in the LFA's Personal Services total for both years.
- A discrepency exists between the Executive budget and the LFA budget figures for Personal Services. The LFA figure appears to be \$91,692 high in FY'84 and \$91,860 high in FY'85.
- 3. The LFA has identified \$564,017 in FY'84 and \$688,659 in FY'85 as an issue that should be added to our budget to cover "Equipment" related expenses only if we can justify it on the basis of growth. We feel that our growth does justify this addition. A compunding factor is that FY'82 was not a heavy workload base year for properly projecting future needs. The following table shows that our worklaod growth stalled in FY'82 probably due to the announcement of Federal cutbacks.

Workload History and Projections for FY'84 and FY'85

Workload in Machine Unit Hours (MUH) units.

Fiscal Year

	78	79	80	81	82	83*	84	85
Total MUH	38,992	60,545	68,462	89,755	91,256	104,778	120,404	134,846
Increases over prev- ious year		55%	13%	31%	1.6%	15%	15%	12%

* FY'83 actual workload was 51,607 MUH through December

The workload figures in the table above not only show the slowdown in FY'82, they also support the fact that our previous projections were as the LFA report states on page 266, "...conservative compared to increases realized in the previous six months". Our new projections extended out through FY'85 may be conservative when compared with the growth between FY'78 and FY'81. However, these are our best projections and they indicate a growth of 30% between the FY'82 - FY'83 biennium and the coming biennium.

FY'82 91,256MUH	FY'84 120,404MUH
FY'83 <u>+104,778</u>	FY'85 <u>+134,846</u>
196,034MUH	255,250MUH
255,250MUH <u>-196,034</u> 59,216MUH increase	59,216 / 196,034 X 100 = <u>30%</u>

Another measure of growth is the increased number of terminals attached to the data communications network. Today 500 terminals are attached to the network, two years ago there were 378. A 32% increase in two years. It is very possible that the number of terminals will nearly double by 1985. We project over 700 based on general growth and additional 200 due to Departments of Labor and Justice projects (growth due to Justice projects covered by modified budget request), bringing the projected total to approximately 900 by 1985.

The true justification for these increases to the LFA budget figure becomes most evident when the growth in expenditures is analyzed and compared to the growth in workload.

The total increased expenditure between the current FY'82 - FY'83 biennium and the FY'84 - FY'85 biennium is 13%.

FY'82 \$3,929,679	FY'84 OBPP \$4,648,179
FY'83 + 4,415,744**	FY'85 OBPP + 4,787,687
\$8,345,423	\$9,435,866
\$9,435,866	1,090,443 / 8,345,423 X 100 = <u>13%</u>
-8,345,423 \$1,090,443 increase	

** The FY'83 total shown on page 263 of the LFA report is in error by \$1,044,909 apparently due to including the entire program amount rather than just the Computer Services subprogram amount.

A projected increase in budgetary expenditures of 13% for the coming biennium is projected to produce 30% more work and support a substantial increase in the number of terminals. Hopefully, the comparison of these figures justifies the cost effectiveness of our requested increase.

4. The LFA budget needs to be increased by \$16,591 in FY'84 and \$16,989 in FY'85 in the category of Supplies and Materials. These increases are needed to provide for training materials (\$10,000 each year) and paper stock (continous forms) that was not shown as part of the FY'82 base because inventory draw down did not show as an expense in the SBAS at the time.

The training materials include video tape courses and other classroom and selfinstruction materials utilized by data processing personnel throughout State Government. Note: the instruction provided by Computer Services Division is far less expensive than other sources, sometimes involving out-of-state travel.

- 5. The LFA budget provides for Repair and Maintenance at \$260,836 + \$55,830 (included in the \$564,017 equipment issue figure, ref: page 265) = \$316,667 in FY'84 and \$336,016 in FY'85 assuming the equipment issue increase is approved. Additional amounts of \$83,936 in FY'84 and \$88,973 in FY'85 are needed to bring the Repair and Maintenance budget up to the OBPP level which includes coverage for the new IBM 3033 maintenance contract. \$80,712 will be paid to IBM in FY'83 for maintenance coverage. This figure was not in the FY'82 base because the new computer was covered by a one-year warranty.
- 6. The LFA budget should be increased by \$2,238 in FY'84 and \$2,331 in FY'85 to cover the cost of in-state travel by technical staff servicing out-of-town

systems. If Computer Services didn't provide this kind of service several other agencies would be required to hire and train software specialists (typically grade 15 and 16 types).

Systems Development Bureau Subprogram 73

- 1. The LFA budget for Supplies and Materials should be increased by \$1,500 in FY'84 and \$1,593 in FY'85. These amounts are needed for the purchase of technical publications and programming manuals used for training purposes and necessary reference sources.
- 2. The LFA budget for Travel should be increased by \$4,372 in FY'84 and \$4,541 in FY'85 to cover the cost of out-of-state travel to attend conferences and specialized training not available in Montana.

One of the ways to cut development costs is to use software that is already developed and in use in other states or private business. Conferences such as Guide and Share provide the opportunity for exchange.

3. The LFA budget for Other Expenses should be increased by \$10,081 in FY'84 and \$10,331 in FY'85 to cover the following:

T	<u>FY'84</u>	<u>FY'85</u>
Interest on existing equipment	\$ 340	
Registration fees for conferences and training classes	\$ 6,400	\$ 6,700
Recruitment expenses Total	<u>\$ 3,341</u> \$10,081	<u>\$ 3,631</u> \$10,331

Recruitment expenses are a very real need, our turnover is significant and we are constantly looking or new hires.

4. The LFA budget for Equipment should be increased by \$4,714 in FY'84 and \$417 in FY'85 to cover the cost of an existing installment purchase contract for terminals.

Records Management Subprogram 72

- 1. If a significant portion of the two microfilming projects requested by the Secretary of State and/or the Suprement Court are funded we will need 1.5 FTE's added to the LFA budget.
- 2. The LFA budget for Personal Services should be increased by \$18,691 in FY'84 and \$18,473 in FY'85 to fund the 1.5 FTE's need for special microfilming projects.
- 3. The LFA budget for Supplies and Materials <u>must</u> be increased by some portion of the following amounts depending on the percentage of requested services that are funded for Secretary of State and the Supreme Court.

Supplies & Materials	\$78,186	in	FY'84
for special micro-			
filming projects	\$85,810	in	FY'85

- 4. The LFA budget for Travel should be increased by \$2,585 in FY'84 and \$2,686 in FY'85. Travel expense is required for the purpose of coordinating and explaining Records Management Services to State offices outside of Helena.
- 5. The LFA budget for Repair and Maintenance should be increased by \$1,616 in FY'84 and \$1,658 in FY'85 to cover anticipated maintenance required on aging micro-filming equipment subject to increased utilization.
- 6. The LFA budget for Goods for Resale should be increased by \$867 in FY'84 and \$919 in FY'85 to allow for the purchase of storage boxes needed for the storage of records.
- 7. The LFA budget for Equipment should be increased by \$5,500 in FY'84 and \$1,500 in FY'85. These amounts are needed to purchase shelves in the records center that will cost \$1,500 in both FY'84 and FY'85. The remaining \$4,000 is needed to purchase a camera to use on projects done at an agency's location.

Department of Administration Computer Services Division

Modified Budget Request for FY'84 - FY'85 Biennium

This modified budget request is needed only if the Department of Justice Message Switcher is to be replaced by a system run by the Computer Services Division.

These figures were developed in cooperation with the Department of Justice based on the following assumptions.

- 1. The now seperate LENS data communication network will be merged with the existing Computer Services Division data network to form one common data network.
- 2. A separate processor will be provided in order to provide the up-time (24 hours a day non-stop) required by the LENS system.
- 3. The Department of Justice will reimburse Computer Services Division for services received based on normal computer billing algorithms.
- 4. The Department of Justice will be responsible for upgrading their terminals.
- 5. The existing central processor (i.e. IBM 3033) will serve as the backup to the primary Message Switching system.
- 6. Conversly, the Message Switching system will serve as a limited backup system for certain critical applications that normally run on the 3033.
- 7. May 1, 1984 is the target date to begin operations.

No personal services expenditures are requested to provide this new service. Therefore, the complete FTE requirement request in our current level budget is essential (i.e., 124.45 FTE's).

> Modified Request Computer Services Subprogram 71

Expenditure	FY'84	FY'85		
Equipment	\$54,000	\$ 85,800		
Communication lines	25,000	150,000		
Software	9,200	55,200		
Total	\$88,200	\$291,000		

Equipment

An IBM 4341 at \$7,000 per month. Protocol converters \$40,000 one time.
Protocol converter maintenance \$150 per month.

Communication lines

Pass through expense presently <u>budgeted</u> for and <u>paid</u> by <u>Department</u> of Justice. Beginning May 1, 1984 we will pay the bills at \$12,500 per month and bill Deparment of Justice an identical amount.

Software

System software to run in the second processor will cost \$4,600 per month.

Computer Rate Study

Rates are always an issue when the budget process has to deal with data processing costs. Computer Services Division has conducted a study to determine how our batch processing rate compares with other states.

A sample jobstream consisting of several different jobs performing various functions was put together here at Computer Services Division. This jobstream package was sent to several states with the request that they run the jobs on their system and send us the results stating the total cost.

Here are the results:

State	Cost of Processing
Alaska	\$218.75
New Mexico	\$118.90
Wyoming	\$111.83
Illinois	\$109.00
Montana	\$103.79
Oregon	\$ 47.63
Nebraska	\$ 36.92

These states all have similar computer systems and they are primarily funded by revolving accounts.

From this study we have concluded that our rates are in the ballpark. However, there is still room for considerable improvement.

Note: Montana offers a discount rate for non-prime shift processing at night and on weekends. The cost of the sample job run at discount rate is \$62.86.

HIGH COST OF SYSTEM DEVELOPMENT

Controlling the cost of developing a computer system has proved to be one of the most difficult tasks for the Systems Development Bureau (SDB), or, for that matter, any system development group. Improving programmer productivity has become one of the most important issues confronting the data processing industry. One of the top priority goals for the Computer Services Division this coming biennium is to improve programmer productivity and optimize the process of designing and development software systems. We are already changing our methods to use some of the productivity tools available to us today.

The following excerpts from computer literature demonstrates the universal concern regarding the high costs of system development.

Ken Orr & Associates, Inc. - Computer Consultants

"#1 problem in systems development"

"Mass production of quality software is one of the major issues for the 1980s" "Increasingly, top management is becoming aware of the tremendous cost of systems that fail to meet an organization's needs. It is not at all uncommon to find major systems that either have been scrapped or are not effective because too little time is spent in defining exactly what the system is supposed to do."

Arthur Young & Company - Computer Consultants

"Problems within an organization's information systems/data processing department are often reflected outside the department itself-in the users' and top management's lack of confidence in the organization's ability to effectively employ computer technology. This dissatisfaction often results from:

- Excessive systems development costs
- Missed deadlines
- Poor quality systems"

Information Builders, Inc. - Software Company

"The development and maintenance of programs have been excessively timeconsuming"

"Commentary", Arnold E. Keller, Publishing Board, Infosystems -Leading computer monthly periodical

"fourth generation software systems....must bridge the gap between computers and people....in such a way so that the time and cost of traditional approaches to systems development and maintenance is reduced. The need for new, innovative software products has clearly been established. Admittedly, they hold the greatest promise of solving one of the most crying needs of American industry-improved professional productivity."

"The Plight of Programming", G. T. Orwick, Computer World-Leading computer weekly periodical

"The ever-increasing salaries paid to data processing professionals plus the relatively low increases in productivity mean the average design and programming cost per computer language instruction has risen from approximately \$4 in 1953 to approximately \$8 today. Thus, a fairly simple system with 20,000 instructions costs nearly 160,000 to design and program. A complex system containing over 300,000 lines of code would call for a current development cost of nearly \$2.4 million."

"Programming: Impacts Daily Life and Corporate Profits", Capers Jones - Manager, Programming Technology Transfer, ITT Programming Technology Center

"Not only was computer programming expensive, but it was unusually troublesome and difficult to control: many programming systems were canceled before completion, and of the ones that were completed, a majority experienced delays, quality problems, cost over-runs and other attributes of immature technologies." "....very few large organizations escaped undamaged and undismayed from the advent of the dawn of the computer age."

"The next item to be discussed is what is likely to be done during the 1980s to enable programming to take its place beside engineering as a respected occupation, instead of being a source of frequent grief and trauma as it sadly is today." "Programming is now too important for survival to be anywhere but under executive scrutiny at the highest levels of industry and government."

"Bug Free Systems - The Programming Crisis", Pieter Mimno, Computerworld -Leading computer weekly periodical

"The need for radically new approaches to program development is rapidly becoming apparent throughout the data processing industry. The industry is already bogged down in a severe software production crisis"

"Average programmer productivity per line of debugged code has not increased" "....,the extremely high cost of modifying existing software has made it economically unfeasible to maintain many of these structures".

"Application Development Without Programmers", James Martin - Renowned computer expert and author

"....productivity in the application development process must increase by a factor of 100 during the next 10 years."

"Open System Architecture & the Computerized Corporation", Dixon Doll, Computerworld -Leading computer weekly periodical

"Software is the name of the game for the 1980s....software holds the answer to some of our nation's most significant productivity problems. One of the major trends of the 1980s is expected to be the significant emphasis by the computer industry in producing new languages and software tools which facilitate the application development process....This is what aggravates maintenance costs and frequently causes users to spend more than half of their budget dollars simply maintaining and modifying existing applications....The end result of this series of events and problems is continuing inflation, cost overruns in DP budgets and significant problems in the overall application productivity, both in the DP shop itself and in the end-user area."







Department of Administration Computer Services Division

Information for Budget Hearing on Thursday, February 3, 1983

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Justification for One Revolving Account

The LFA budget on page 264, under the subheading <u>Funding</u>, states that the combining of three revolving accounts into one accounting center "causes some concern". We feel that the establishment of one accounting center (ie, a single revolving account) is most efficient and very much consistent with other efficiency changes made when Computer Services Division was reorganized in June of 1982. Our current practice of producing monthly income and expense summaries provides a "ready means of scrutiny" into the cost recovery status of the subprograms within the division.

Our reasons for operating with one accounting center go beyond the obvious savings in administrative overhead required to operate one rather than three separate accounts. We feel that the following points justify the single account.

Cash Flow

An operating cash balance level sufficient to keep an account in the "black" during temporary increases in expenses or declines in income must be maintained in each account. Using one account the smaller subprograms can be managed to simply breakeven rather than increasing the rates to the extent necessary to build-up an adequate operating balance in each separate account. This is possible because the computer operations portion of the total program is sufficiently large enough (ie, 87% of all income and expenses in the total program) to provide operating cash during times of temporary deficiencies in the individual subprogram areas.

Accountability

The current accounting structure used by Computer Services Division is consistent with generally accepted accounting procedures. CSD uses several profit centers (called Responsibility Centers in the State's accounting system) to provide complete accountability of Division financial activities. Monthly financial statements are published by the Division to give management and others concerned an accurate picture of the financial status of each bureau charged with being self-supporting. These monthly financial statements actually provide a better indication of financial condition than could be provided by separate accounting centers.

Transfer of Funds, Subsidies, etc.

All of the Computer Services Division's services are related to processing and managing information. We can most effectively handle the wide range of tasks by making specialists within the division available to work in any subprogram area needing their skills. Clerical level employees are utilized across subprograms to satisfy a peak load requirement in one area while the other area has slack time. Through this type of matrix management of personnel throughout the division we are able to operate with fewer people (FTE's) than we would if we established an adequate number of FTE in each subprogram area. We also reduce the unproductive business of continually hiring temporary help and laying people off. This type of management necessitates transfer of funds and paying personnel from more than one subprogram. It can be accomplished with separate accounting centers but its a lot easier with one account.

Subsidies may happen when one subprogram or another fails to recover all costs at fiscal year end. However, all subprograms will continue to be managed to "breakeven" each fiscal year. Rates will be adjusted and costs managed accordingly.

3

The most important point is that this division should be focussing its efforts toward providing cost effective services to the agencies. It is unproductive to get bogged down on cost recovery concerns and internal procedures that will in no way improve those services.

ISSUE 1 EQUIPMENT Reference pages 264 and 265 of the LFA budget

Expenditure	FY'84	FY'85
2500 Rent		
Disk Drives (existing	\$168,047	\$176,049
Disk Drives (new)	83,686	158,294
Software (existing)	22,692	24,418 ·
Software (new)	25,000	28,000
8100 Software (new/pass thru)	24,192	40,641
Paging Subsystem (new)	25,000	50,000
MOdems (new)	37,522	47,336
Terminals (new)	5,367	11,270
Subtotal for Rent	\$391,506	\$536,008
3100 Equipment		
CPU MOdel change	\$ 92,659 ¹	\$ 64,293
Subtotal of Rent and Equipment	\$484,159	\$600,301
2700 Repair and Maintenance	55,830	59,531
2300 Communications	24,022	28,827
Total amount to be added for growth	\$564,017	\$688,659 =======

3A

Department of Administration Computer Services Division (Program 07) FY'84 - FY'85 Biennium Budget

Computer Services Subprogram 71

- Seven (7) FTE's need to be added to the LFA budget. These 7-FTE's were evidently left out due to an oversight, since more than enough salary and benefits for our full 92.45 - FTE's was provided in the LFA's Personal Services total for both years.
- A discrepency exists between the Executive budget and the LFA budget figures for Personal Services. The LFA figure appears to be \$91,692 high in FY'84 and \$91,860 high in FY'85.
- 3. The LFA has identified \$564,017 in FY'84 and \$688,659 in FY'85 as an issue that should be added to our budget to cover "Equipment" related expenses only if we can justify it on the basis of growth. We feel that our growth does justify this addition. A compunding factor is that FY'82 was not a heavy workload base year for properly projecting future needs. The following table shows that our worklaod growth stalled in FY'82 probably due to the announcement of Federal cutbacks.

Workload History and Projections for FY'84 and FY'85

Workload in Machine Unit Hours (MUH) units.

Fiscal Year

	78	79	80	<u></u> .	82	83*	84	85
Total MUH	38,992	60,545	68,462	89,755	91,256 _.	104,778	120,404	134,846
Increases over prev- ious year		55%	13%	31%	1.6%	15%	15%	12%

* FY'83 actual workload was 51,607 MUH through December

The workload figures in the table above not only show the slowdown in FY'82, they also support the fact that our previous projections were as the LFA report states on page 266, "...conservative compared to increases realized in the previous six months". Our new projections extended out through FY'85 may be conservative when compared with the growth between FY'78 and FY'81. However, these are our best projections and they indicate a growth of 30% between the FY'82 - FY'83 biennium and the coming biennium.

FY'82 91,256MUH	FY'84 120,404MUH
FY'83 <u>+104,778</u>	FY'85 <u>+134,846</u>
196,034MUH	255,250MUH
255,250MUH -196,034 59,216MUH increase	59,216 / 196,034 X 100 = 30%

Another measure of growth is the increased number of terminals attached to the data communications network. Today 500 terminals are attached to the network, two years ago there were 378. A 32% increase in two years. It is very possible that the number of terminals will nearly double by 1985. We project over 700 based on general growth and additional 200 due to Departments of Labor and Justice projects (growth due to Justice projects covered by modified budget request), bringing the projected total to approximately 900 by 1985.

The true justification for these increases to the LFA budget figure becomes most evident when the growth in expenditures is analyzed and compared to the growth in workload.

The total increased expenditure between the current FY'82 - FY'83 biennium and the FY'84 - FY'85 biennium is 13%.

FY'82 $$3,929,679$	FY'84 OBPP \$4,648,179
FY'83 $+ 4,415,744**$	FY'85 OBPP <u>+ 4,787,687</u>
\$8,345,423	\$9,435,866
\$9,435,866 <u>-8,345,423</u> \$1,090,443 increase	1,090,443 / 8,345,423 X 100 = 13%

** The FY'83 total shown on page 263 of the LFA report is in error by \$1,044,909 apparently due to including the entire program amount rather than just the Computer Services subprogram amount.

A projected increase in budgetary expenditures of 13% for the coming biennium is projected to produce 30% more work and support a substantial increase in the number of terminals. Hopefully, the comparison of these figures justifies the cost effectiveness of our requested increase.

4. The LFA budget needs to be increased by \$16,591 in FY'84 and \$16,989 in FY'85 in the category of Supplies and Materials. These increases are needed to provide for training materials (\$10,000 each year) and paper stock (continous forms) that was not shown as part of the FY'82 base because inventory draw down did not show as an expense in the SBAS at the time.

The training materials include video tape courses and other classroom and selfinstruction materials utilized by data processing personnel throughout State Government. Note: the instruction provided by Computer Services Division is far less expensive than other sources, sometimes involving out-of-state travel.

- 5. The LFA budget provides for Repair and Maintenance at \$260,836 + \$55,830 (included in the \$564,017 equipment issue figure, ref: page 265) = \$316,667 in FY'84 and \$336,016 in FY'85 assuming the equipment issue increase is approved. Additional amounts of \$83,936 in FY'84 and \$88,973 in FY'85 are needed to bring the Repair and Maintenance budget up to the OBPP level which includes coverage for the new IBM 3033 maintenance contract. \$80,712 will be paid to IBM in FY'83 for maintenance coverage. This figure was not in the FY'82 base because the new computer was covered by a one-year warranty.
- 6. The LFA budget should be increased by \$2,238 in FY'84 and \$2,331 in FY'85 to cover the cost of in-state travel by technical staff servicing out-of-town

systems. If Computer Services didn't provide this kind of service several other agencies would be required to hire and train software specialists (typically grade 15 and 16 types).

Systems Development Bureau Subprogram 73

- The LFA budget for Supplies and Materials should be increased by \$1,500 in FY'84 1. and \$1,593 in FY'85. These amounts are needed for the purchase of technical publications and programming manuals used for training purposes and necessary reference sources.
- The LFA budget for Travel should be increased by \$4,372 in FY'84 and \$4,541 in 2. FY'85 to cover the cost of out-of-state travel to attend conferences and specialized training not available in Montana.

One of the ways to cut development costs is to use software that is already developed and in use in other states or private business. Conferences such as Guide and Share provide the opportunity for exchange.

3. The LFA budget for Other Expenses should be increased by \$10,081 in FY'84 and \$10,331 in FY'85 to cover the following:

	<u>FY'84</u>	<u>FY'85</u>
Interest on existing equipment	\$ 340	
Registration fees for conferences and training classes	\$ 6,400	ş 6,700
Recruitment expenses Total	<u>\$ 3,341</u> \$10,081	<u>\$ 3,631</u> \$10,331

Recruitment expenses are a very real need, our turnover is significant and we are constantly looking or new hires.

The LFA budget for Equipment should be increased by \$4,714 in FY'84 and \$417 in 4. FY'85 to cover the cost of an existing installment purchase contract for terminals.

Records Management Subprogram 72

- If a significant portion of the two microfilming projects requested by the 1. Secretary of State and/or the Suprement Court are funded we will need 1.5 FTE's added to the LFA budget.
- The LFA budget for Personal Services should be increased by \$18,691 in FY'84 and 2. \$18,473 in FY'85 to fund the 1.5 FTE's need for special microfilming projects.
- 3. The LFA budget for Supplies and Materials must be increased by some portion of the following amounts depending on the percentage of requested services that are funded for Secretary of State and the Supreme Court.

Supplies & Materials for special microfilming projects

\$78,186 in FY'84 2.000 for COM nuded \$85,810 in FY'85 20,000 for COM nuded

- 4. The LFA budget for Travel should be increased by \$2,585 in FY'84 and \$2,686 in FY'85. Travel expense is required for the purpose of coordinating and explaining Records Management Services to State offices outside of Helena.
- 5. The LFA budget for Repair and Maintenance should be increased by \$1,616 in FY'84 and \$1,658 in FY'85 to cover anticipated maintenance required on aging micro-filming equipment subject to increased utilization.
- 6. The LFA budget for Goods for Resale should be increased by \$867 in FY'84 and \$919 in FY'85 to allow for the purchase of storage boxes needed for the storage of records.
- 7. The LFA budget for Equipment should be increased by \$5,500 in FY'84 and \$1,500 in FY'85. These amounts are needed to purchase shelves in the records center that will cost \$1,500 in both FY'84 and FY'85. The remaining \$4,000 is needed to purchase a camera to use on projects done at an agency's location.

7

Department of Administration Computer Services Division

Modified Budget Request for FY'84 - FY'85 Biennium

affront.

This modified budget request is needed only if the Department of Justice Message Switcher is to be replaced by a system run by the Computer Services Division.

These figures were developed in cooperation with the Department of Justice based on the following assumptions.

- 1. The now seperate LENS data communication network will be merged with the existing Computer Services Division data network to form one common data network.
- 2. A separate processor will be provided in order to provide the up-time (24 hours a day non-stop) required by the LENS system.
- 3. The Department of Justice will reimburse Computer Services Division for services received based on normal computer billing algorithms.
- 4. The Department of Justice will be responsible for upgrading their terminals.
- 5. The existing central processor (i.e. IBM 3033) will serve as the backup to the primary Message Switching system.
- 6. Conversly, the Message Switching system will serve as a limited backup system for certain critical applications that normally run on the 3033.
- 7. May 1, 1984 is the target date to begin operations.

No personal services expenditures are requested to provide this new service. Therefore, the complete FTE requirement request in our current level budget is essential (i.e., 124.45 FTE's).

> Modified Request Computer Services Subprogram 71

Expenditure Equipment Communication lines Software Total

Equipment

FY'84 \$54,000 25,000 9,200 \$88,200

15000 to Justus

FY'85 \$ 85,800 150,000 55,200 \$291,000 -

100,000 to Justice 250.000 to Justice/ y

An IBM 4341 at \$7,000 per month.

Protocol converters \$40,000 one time. Protocol converter maintenance \$150 per month.

Communication lines

Pass through expense presently budgeted for and paid by Department of Justice. Beginning May 1, 1984 we will pay the bills at \$12,500 per month and bill Deparment of Justice an identical amount.

Software

System software to run in the second processor will cost \$4,600 per month.

Computer Rate Study

Rates are always an issue when the budget process has to deal with data processing costs. Computer Services Division has conducted a study to determine how our batch processing rate compares with other states.

A sample jobstream consisting of several different jobs performing various functions was put together here at Computer Services Division. This jobstream package was sent to several states with the request that they run the jobs on their system and send us the results stating the total cost.

Here are the results:

State	Cost of Processing
Alaska	\$218.75
New Mexico	\$118.90
Wyoming	\$111.83
Illinois	\$109.00
Montana	\$103.79
Oregon	\$ 47.63
Nebraska	\$ 36.92

These states all have similar computer systems and they are primarily funded by revolving accounts.

From this study we have concluded that our rates are in the ballpark. However, there is still room for considerable improvement.

Note: Montana offers a discount rate for non-prime shift processing at night and on weekends. The cost of the sample job run at discount rate is \$62.86.

HIGH COST OF SYSTEM DEVELOPMENT

Controlling the cost of developing a computer system has proved to be one of the most difficult tasks for the Systems Development Bureau (SDB), or, for that matter, any system development group. Improving programmer productivity has become one of the most important issues confronting the data processing industry. One of the top priority goals for the Computer Services Division this coming biennium is to improve programmer productivity and optimize the process of designing and development software systems. We are already changing our methods to use some of the productivity tools available to us today.

The following excerpts from computer literature demonstrates the universal concern regarding the high costs of system development.

Ken Orr & Associates, Inc. - Computer Consultants

"#1 problem in systems development"

"Mass production of quality software is one of the major issues for the 1980s" "Increasingly, top management is becoming aware of the tremendous cost of systems that fail to meet an organization's needs. It is not at all uncommon to find major systems that either have been scrapped or are not effective because too little time is spent in defining exactly what the system is supposed to do."

Arthur Young & Company - Computer Consultants

"Problems within an organization's information systems/data processing department are often reflected outside the department itself-in the users' and top management's lack of confidence in the organization's ability to effectively employ computer technology. This dissatisfaction often results from:

- Excessive systems development costs
- Missed deadlines
- Poor quality systems"

Information Builders, Inc. - Software Company

"The development and maintenance of programs have been excessively timeconsuming"

"Commentary", Arnold E. Keller, Publishing Board, Infosystems -Leading computer monthly periodical

"fourth generation software systems....must bridge the gap between computers and people....in such a way so that the time and cost of traditional approaches to systems development and maintenance is reduced. The need for new, innovative software products has clearly been established. Admittedly, they hold the greatest promise of solving one of the most crying needs of American industry-improved professional productivity."

"The Plight of Programming", G. T. Orwick, Computer World-Leading computer weekly periodical

"The ever-increasing salaries paid to data processing professionals plus the relatively low increases in productivity mean the average design and programming cost per computer language instruction has risen from approximately \$4 in 1953 to approximately \$8 today. Thus, a fairly simple system with 20,000 instructions costs nearly 160,000 to design and program. A complex system containing over 300,000 lines of code would call for a current development cost of nearly \$2.4 million."

"Programming: Impacts Daily Life and Corporate Profits", Capers Jones - Manager, Programming Technology Transfer, ITT Programming Technology Center

"Not only was computer programming expensive, but it was unusually troublesome and difficult to control: many programming systems were canceled before completion, and of the ones that were completed, a majority experienced delays, quality problems, cost over-runs and other attributes of immature technologies." "....very few large organizations escaped undamaged and undismayed from the advent of the dawn of the computer age."

"The next item to be discussed is what is likely to be done during the 1980s to enable programming to take its place beside engineering as a respected occupation, instead of being a source of frequent grief and trauma as it sadly is today." "Programming is now too important for survival to be anywhere but under executive scrutiny at the highest levels of industry and government."

"Bug Free Systems - The Programming Crisis", Pieter Mimno, Computerworld -Leading computer weekly periodical

"The need for radically new approaches to program development is rapidly becoming apparent throughout the data processing industry. The industry is already bogged down in a severe software production crisis"

"Average programmer productivity per line of debugged code has not increased" "....,the extremely high cost of modifying existing software has made it economically unfeasible to maintain many of these structures".

"Application Development Without Programmers", James Martin - Renowned computer expert and author

"....productivity in the application development process must increase by a factor of 100 during the next 10 years."

"Open System Architecture & the Computerized Corporation", Dixon Doll, Computerworld -Leading computer weekly periodical

"Software is the name of the game for the 1980s....software holds the answer to some of our nation's most significant productivity problems. One of the major trends of the 1980s is expected to be the significant emphasis by the computer industry in producing new languages and software tools which facilitate the application development process....This is what aggravates maintenance costs and frequently causes users to spend more than half of their budget dollars simply maintaining and modifying existing applications....The end result of this series of events and problems is continuing inflation, cost overruns in DP budgets and significant problems in the overall application productivity, both in the DP shop itself and in the end-user area."







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0000	EULL TIME EQUIVALENT (FIE) 95.45	92.45	85.45	- / .00		92.45	85.45	-7.00	
1100	SALARIES	1 261'522'1	, 793, 015	1,876,673	83,658		1, 789, 168	1,871,682	82,514	
001/1	EMPLOYEE BENEFITS	354, 181	250,663	255,817	5,154	((·	253, 167	259,633	6,466	
1500	HEALTH INSURANCE		88,152	91,632	2,880		541,88	91,632	2,880	···· , ··· , ···
	TOTAL LE	2 مردرددا _ر د عار	, 132, 430	2,224,122	91,692		2,131,087	2,222,947	91,860	t
2100	CONTRACTED SERVICES	25,800	23,674	23,668	9 -		12, 102	12,093	6-	,
2200	SUPPLIES & MATERIALS	451'242	248,815	232,224	-16,591		263, 143	246, 154	-16,989	···· / ···
2300	COMMUNICATIONS	108,570	118, 184	94,158	-24,026		140,829	111.996	-28,833	····
5400	TRAVEL	15,450	20,566	18, 328	-2,238		21,360	19,029	-2,331	···· , ···· , ···
2500	RENT	988'429	818,998	406,627	-412,371		1,008,676	431,023	-577,653	···· , ···· , ···
001 0	REPAIR & MAINTENANCE	344,376	400,603	260,837	-139,766		424,989	276,485	-148,504	
2800	OTHER EXPENSES	767,737	199, 380	199,376	tı-	, ,	133,682	133,675	- 7	
	TOTAL LE	VEL 1,648,973 1	,830,220	1,235,218	-595,002		2,004,781	1,230,455	-774,326	
3100	EQUIPMENT	623,395	685,529	592,870	-92,659		651,819	587,526	-64,293	
	TOTAL LE	VEL 623,345	685,529	592,870	-92,659		611,819	587,526	-64,293	
	TOTAL PR	OGRAM HIS,744	, 648, 179	4,052,210	-595,969		4,787,687	4,040,928	-146,759	···· , ···· , ···
06522	CENTRAL DATA PROCESSIN	11 HAL'SH'H D	. 648. 179	4,052,210	-595,969		4,787.687	4,040,928	- 146, 759	Η,
	TOIAL PR	OGRAM	648,179	4,052,210	-595,969		4, 787.687	4,040,928	- 146, 759	reb.
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AGENC	Y : 6101 DEPARIMENT OF AL AM : 07 COMPUTER SERVICE OL : 00072 RECORDS MANAGEME	DMINESIRATION ES DIVISION ENF					CURRENT L	EVEL SERVIC	ES ONLY	
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.0000	FULL TIME EQUIVALENT (FTE)	11.00 11.00	9.50	04.1-	·	11,00	9.50	-1.50		
0011	SALARIES	152,575165,239	150,521	-14,718	•	164,608	149,949	-14,659		
1400	EMPLOYEE BENEFITS	38,143 23.547	21,014	-2,533		23, 153	21,379	-2,374		
1500	HEALTH INSURANCE	10,560	9,120	-1, 140	·····	10,560	9, 120	-1,440	•	
	IDIAL LEVEL	190,718199,346	180,655	-18,691)	•	198,921	180,448	-18,473		
2100	CONTRACTED SERVICES	3,139 2,034	1,915	611-	· · · · · · · · · · · · · · · · · · ·	2,125	1,994	-131		I
2200	SUPPLIES & MATERIALS	53,088111,398	33,212	- 78, 186		121,039	35, 229	-85,810		
2300	COMMUNICATIONS	5,907 4,133	4, 129	tı -		1,667	4,659	60 1		
0042	TRAVEL	1,000 2,860	275	-2,585		2,969	283	-2,686		
2500	RENT	41,581 32.770	31,198	-1,572		35, 306	33,068	-2,238		
2700	REPAIR & MAINTENANCE	20,000 12.917	11, 301	-1,616	• •	13,632	11,974	-1,658		
2800	OTHER EXPENSES	9,870 4,492	161,4	•		196	962	ç ₽		
0062	GOODS PURCHASED FOR RESALE	411.4	3,907	-867		5,060	4, 141	-919		
	TOTAL LEVEL	134,585175,378	90,428	040,48-	•	185, 162	92,310	-93,452		
3100	EQUIPMENT	1,785 29.944	24,444	-5,500		17,493	15,993	-1,500		
	TOTAL LEVEL	1,785 29.944	24,444	-5,500		17.493	15,993	-1,500		
	. TOTAL PROGRAM	M.327,088404.668	295,527	-109, 141		402,176	288,751	-113,425	•	
06522	CENTRAL DATA PROCESSING	327,088404.668	295,521	-109,141		402,176	288,751	-113,425	6 6	
	TOTAL PROGRAM	M.327,088404.668	295,527	-100,141		402,176	288, 751	-113,425		

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0000	FULL TIME	EQUIVALENT (FTE)	21.00	21.00	21.00			21.00	21.00		
1100	SALARIES		506,152	517,884	514,122	-3,162		515.899	512,180	-3,719	
1100	EMPLOYEE B	IENEFITS	101,260	13,591	12,266	-1,325		74, 186	79,649	5,463	
1500	HEALTH INS	SURANCE	N	20,160	20, 160		•	20,160	20, 160		
		101AL LEVEL	607,412	611,635	606,548	- 9,087		610,245	611,989	1,744	
2100	CONTRACTED) SERVICES	5,000	1.076	7,075	7	•	1 , 44 1	7,439	Ň	
2200	SUPPLIES &	E MATERIAIS	6,459	4,955	3,455	004.1-	•	5,243	3,660	-1,593	
2300	COMMUNICAT	SNOT	5,250	4,235	4,230	- -		4.004	4,896	e I	
2400	TRAVEL		· 1	5,020	648	-4,372		9.216	615	-4,541	
2500	RENT		11,118	30, 106	28,866	04241-		32,634	30,578	-2,056	
2700	REPAIR & M	1A I N T E NANCE	5,120	3,021	3,020	 1		3,203	3,200	m I	, ,
2800	OTHER EXPE	NSES	12,838	11, 126	1,645	-10,081		112,074	1,743	-10,331	
		TOTAL LEVEL	45,785	66, 139	48,939	-17,200		10, 725	52, 191	-18,534	
3100	EQUIPMENT		4,215	4,714		411/ 41-		114		L14-	
		TOTAL LEVEL	4,215	417,4		4.714		114		214-	, ,
		TOTAL PROCRA	M 657,412	682,188	655,487	-27,001		681, 387	664, 180	-17,207	
06528	CENTRAL DA	VTA PROCESSING	657,412	<u>882</u> ,488	655,487	-27,001		681,387	664,180	-17,207	-
		TOTAL PROGRA	M 657,412	5 82,488	655,487	100,15-		681,387	664,180	-17,207	

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OFFICE OF BUDGET & PROGRAM PLANNING EXECUTIVE BUDGET SYSTEM

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COMPUTER SERVICES DIVISION

INCOME EXPENSE EXHIBIT

OPERATING ACCOUNT

DECEMBER 1982

	COMP OPS.	PROD SERVICES	SYSTEMS DEVEL.	RECORDS MGMT	TOTAL PROGRAM
Income					
Year To Date	\$1,891,719	\$ 282,956	\$ 216,945	\$ 110,926	\$2,502,546
Current Month	338,616	47,116	32,902	17,013	435,647
Expenses					
Year To Date	\$1,695,676	\$ 273,739	\$ 247,728	\$ 127,804	\$2,344,947
Current Month	318,001	41,736	34,456	24,860	419,053
<u>Difference</u>					
Year to Date	\$ 196,043	\$ 9,217	\$ (30,783)	\$ (16,878)	\$ 157,599
Current Month	20,615	5,380	(1,554)	(1,847)	16,594

exhibit 3 Feb. 3, 1983

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ISSUE 1 EQUIPMENT Reference pages 264 and 265 of the LFA budget

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Expenditure	FY'84	FY'85
2500 Rent		
Disk Drives (existing	\$168,047	\$176,049
Disk Drives (new)	83,686	158,294
Software (existing)	22,692	24,418
Software (new)	25,000	28,000
8100 Software (new/pass thru)	24,192	40,641
Paging Subsystem (new)	25,000	50,000
MOdems (new)	37,522	47,336
Terminals (new)	5,367	11,270
Subtotal for Rent	\$391,506	\$536,008
3100 Equipment		
CPU MOdel change	<u>\$ 92,659</u>	<u>\$ 64,293</u>
Subtotal of Rent and Equipment	\$484,159	\$600,301
2700 Repair and Maintenance	55,830	59,531
2300 Communications	24,022	28,827
Total amount to be added for growth	\$564,017	\$688,659

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Representative Neuman Page 2 exhibit 6 Feb. 3, 1983

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	1983 Biennium	1985 Biennium
Beginning Balance Revenue	\$1,098,518 5,704,982	\$ (82,515) _9,510,988
Total Available	\$6,803,500	\$9,428,473
Expenditures DNRC State Lands Fish, Wildlife, & Parks 30 % Water Development	\$2,832,128 2,464,893 87,500 1,711,494	\$2,349,758 2,599,417 -0- _2,853,295
Total Expenditures	\$7,096,015	\$7,802,470
Expected Revisions - FYE 1983 DNRC State Lands Fish, Wildlife, & Parks	\$ 150,000 60,000 -0-	
Total Revisions	\$ 210,000	
Net Expenditures	\$6,886,015	
Balance Fiscal Year-End 1983	\$ (82,515) ========	\$1,626,003

Table 1 Resource Indemnity Trust - Interest Fund

exhibit 7 Feb. 3, 1983

VISITOR'S REGISTER

HOUSE ELECTED OFFICIALS/HIGHWAYS COMMITTEE

XXXXXX Dept. of Administration:

DATE Feb. 3, 1983

XXXXXXXXX Computer Services, Information Systems Div.,

Systems Development Bureau, Records Management

NAME	RESIDENCE	REPRESENTING	SUP- PORT	OP- POSE
Mike Trevor	Helena	CSD	V	
J. Clin, stwart	Ito/eaa	CS/)	c-	

IF YOU CARE TO WRITE COMMENTS, ASK SECRETARY FOR LONGER FORM.

WHEN TESTIFYING PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

FORM CS-33 1-83

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