UNITED STATES
GENERAL ACCOUNTING OFFICE

Audit Coverage Of Internal Financial Operations

Department of Agriculture

The Accounting and Auditing Act of 1950 requires the head of each agency to establish and maintain systems of internal control, including appropriate internal audit, in order to provide effective control over and accountability for all funds, property, and other assets for which the agency is responsible.

We found that the current audit effort provides adequate internal financial audit coverage for most of the operations of the Department.

FGMSD-76-84

OCT. 8,1976

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

DIVISION OF FINANCIAL AND
GENERAL MANAGEMENT STUDIES

B-160759

The Honorable
Secretary of Agriculture

Dear Mr. Secretary:

The Accounting and Auditing Act of 1950 (31 U.S.C. 66a) requires the head of each agency to establish and maintain systems of internal control, including appropriate internal audit, in order to provide effective control over and accountability for all funds, property, and other assets for which the agency is responsible. The act further contemplates that the head of each agency will assure himself of the adequacy of staffing and the scope of internal audit arrangements in his agency.

We reviewed the Department of Agriculture's internal audit operations to determine the extent to which financial audits are made of the Department's revenues, expenditures, assets, and liabilities. We did not consider whether internal audits of economy and efficiency of operations or effectiveness in achieving program objectives were being adequately performed. Appendix I lists the areas of audit concern included in the scope of our review.

Our review concentrated on audits of internal financial areas performed by the Office of Audit during fiscal years 1973 through 1975, with emphasis on fiscal year 1975 coverage. Audits of external operations, such as food stamp distribution centers, child nutrition programs, university grants, and audits conducted by other than Office of Audit personnel were excluded from our survey.

The Office of Audit issued 8,289 audit reports during fiscal years 1973 through 1975, including 2,576 in fiscal year 1975. A summary of the areas covered by these reports is shown in appendix II. Agriculture officials advised us that almost all the reports include a review of some aspect of financial operations as well as compliance with laws and regulations, reviews of the economy and efficiency of operations, or results of programs. Approximately 67 percent

of the audit effort was expended on internal operations and the remainder was expended on external grants and contracts.

Office of Audit officials provided us information which showed that its fiscal year 1975 audits covered the internal financial areas of cash, receivables, advances, property, liabilities, administrative control of funds, revenues, costs, and financial reports for programs representing over 99 percent of Agriculture's obligations. Our review of a sample of 23 fiscal year 1975 reports indicated that such coverage was in fact being provided for those programs.

Six programs, representing less than 1 percent of Agriculture's fiscal year 1975 financial obligations, were not audited during fiscal year 1975. Two of these programs, the Economic Research Service and the Rural Development Service, had been audited during fiscal years 1973 and 1974 respectively, but the financial coverage on these audits was very limited.

The other four programs, Statistical Reporting Service, Farmer Cooperative Service, Rural Electrification Administration, and the National Agricultural Library had not been audited during fiscal years 1973 through 1975. Three of these four programs had audits scheduled for that period, but they were delayed because staff was assigned to higher priority areas.

We believe that the current audit effort provides adequate audit coverage of the internal financial operations of the Department of Agriculture as required by the Accounting and Auditing Act of 1950. Six programs, representing less than 1 percent of the Departmental obligations, were not adequately audited during the period covered by our review. Audits of these programs were either performed after that period or were planned.

We are sending copies of the report to the Director, Office of Management and Budget; the Assistant Secretary for Administration and the Office of Audit of the Department of Agriculture.

We appreciate the courtesies and cooperation extended to our representatives during our review.

Sincerely yours,

D. L. Scantlebury
Director

SUMMARY OF MAJOR AREAS OF FINANCIAL INTEREST FOR REVIEW AND EVALUATION BY AGENCY INTERNAL AUDIT ORGANIZATIONS

Cash

General

Internal control procedures
Adequacy of records and procedures
Cash accounts identified by appropriation and/or fund
Periodic or surprise cash counts
Reconciliation of cash with the Treasury Department fund balances
Compliance with laws and regulations
Reports

Collections

Physical control
Cash recorded immediately after receipt
Timely deposit of cash receipts
Excessive funds on hand
Cash in transit--cutoff dates

Disbursements

Preaudit prior to approval for disbursement
Disbursement recorded promptly in records
Disbursement in transit at time of cutoff

Imprest Funds

Compliance with fund restrictions
Advances
Reimbursements--service provided
Adequacy of invested capital

Other

Investments

Receivables

Internal control procedures
Compliance with laws and regulations
Receivables identified by appropriation and/or fund

Receivables (con.)

Classification of receivables:
  a) Interagency/fund
  b) External
Price established on documentation for:
  a) Actual cost
  b) Estimated cost
Accounts reviewed, delinquent accounts identified
Provisions for doubtful accounts
Control--adjustments and writeoffs
Collection and liquidation of receivables

Advances

Travel

Internal control procedures
Administrative control over travel
Compliance with travel regulations
Control over Government travel regulations
Timely settlement of employees' travel advances
Authorized expenses

Contractors

Liquidation--services provided/returned

Grantees

Liquidation--services provided/returned

Property

Internal control procedures
Policy, procedures, and recordkeeping
Integrated property and financial records
Account classification:
  a) Furniture/fixtures
  b) Equipment
  c) Plant and equipment
  d) On assignment--to others
  e) On assignment--from others
  f) Supplies and materials

Property (con.)

Property valuation established on documentation for:
- a) Cost
- b) Estimated
- c) Salvage

Compliance with laws and regulations
Physical contol:
- Acquisition
- Removal
- Utilization of property
- Excess property
- Identification

Timely recording in the property/financial records
Control over loss/writeoffs
Reconciliation of physical inventories with property records/financial
Depreciation/obsolescence
Evaluation of maintenance costs and economic value

Liabilities

Internal control procedures
Account classification:
- a) Accounts payable
- b) Contract provisions
- c) Accruals
- d) Intergovernmental/fund
- e) Advance payments
- f) Contingencies
- g) Unfunded
- h) Long-term debts

Timely recording of liabilities
Accounts identified by appropriation/fund
Liquidation of liabilities
Support/pricing of liabilities

Administrative control of funds

Internal control procedures
Separation of accounts by appropriation/fund:
- a) Apportionment
- b) Subdivision of funds
- c) Obligations
- d) Disbursements
- e) Reporting

Administrative control of funds (con.)

Compliance with laws/regulations
Incurrence of obligations:
  a) Authority
  b) Availability of funds:
     Precertification
     Commitment accounting
  c) Compliance with 1311 criteria
  d) Timely recording
Policy and procedures
Liquidation and recoupment of excess obligations
Use of "M" accounts
Reprograming/transfer of funds
Accounting for proceeds
Status of funds reports

Revenues

Internal control procedures
Revenue accounts identified by appropriation/fund:
  a) Fees, fines
  b) Reimbursements to appropriation
Authorized services
Established fees:
  a) Total costs--supported by accounting records
  b) Estimated/negotiated
  c) Statutory
Timely recording of billings
Adjustments/writeoffs
Compliance with laws and regulations
Comparison amounts billed/cost of services provided

Costs

Internal control procedures
Timely recording in accounts
Separation of costs:
  a) Pay and allowance
  b) Direct
  c) Indirect
  d) Depreciation
  e) Contracts/grantees
  f) Unfunded

APPENDIX I

Costs (con.)

System integrated with financial records
Basis for costs
Cost reports--full disclosure and useful to management
Comparison of costs to standards of measurements
Compliance with laws and regulations
Allocation of costs

Reports

Full disclosure of financial condition
Compliance with laws and regulations
Supported by accounting system
Usefulness to management
Timeliness of reports
Accurate, reliable, truthful
Comparison of budgeted/programed costs with actual
Footnoted as required

Other

Approved systems implemented
Followup prior recommendations

AUDIT COVERAGE AND EXPENDITURE DATA

DEPARTMENT OF AGRICULTURE

Fiscal year	Organization	Audit reports	Staffdays	Expenditures (millions)
	International Affairs and Commodity Programs Division:			
	--Foreign Agricultural Service			
1973		40	821	$ 754.0
1974		42	1,029	639.0
1975		39	1,433	933.9
	--Agricultural Stabilization Conservation Service			
1973		1,156	22,781	481.4
1974		1,100	18,274	305.0
1975		557	8,834	534.0
	--Commodity Credit Corporation			
1973		b/	b/	3,267.6
1974		b/	b/	3,301.9
1975		b/	b/	4,069.4
	--Federal Crop Insurance Corporation			
1973		8	955	c/(.9)2/
1974		6	736	c/(2.1)2/
1975		9	933	c/(30.3)2/
	Marketing and Consumer Services Division:			
	--Food and Nutrition Service:			
	--Food Distribution a/			
1973		106	1,553	d/
1974		104	1,128	d/
1975		9	94	d/

APPENDIX II

Fiscal year	Organization	Audit reports	Staffdays	Expenditures (millions)
	--Food Stamp Program			
1973		996	12,916	$2.207.5
1974		630	10,491	2,844.8
1975		670	10,470	4,599.0
	--Child Nutrition Programs			
1973		159	3,655	693.3
1974		179	3,873	801.5
1975		434	7,408	1,572.2
	--Agricultural Marketing Service			
1973		21	1,156	32.0
1974		22	1,368	34.9
1975		17	777	40.6
	--Packers and Stockyards Administration			
1973		5	233	3.7
1974		3	120	4.0
1975		-	-	4.6
	Agricultural Economics and Departmental Administration Division:			
	--Statistical Reporting Service			
1973		-	-	22.7
1974		-	-	24.3
1975		-	-	27.1
	--Economic Research Service			
1973		1	166	16.5
1974		-	-	19.8
1975		-	-	23.5

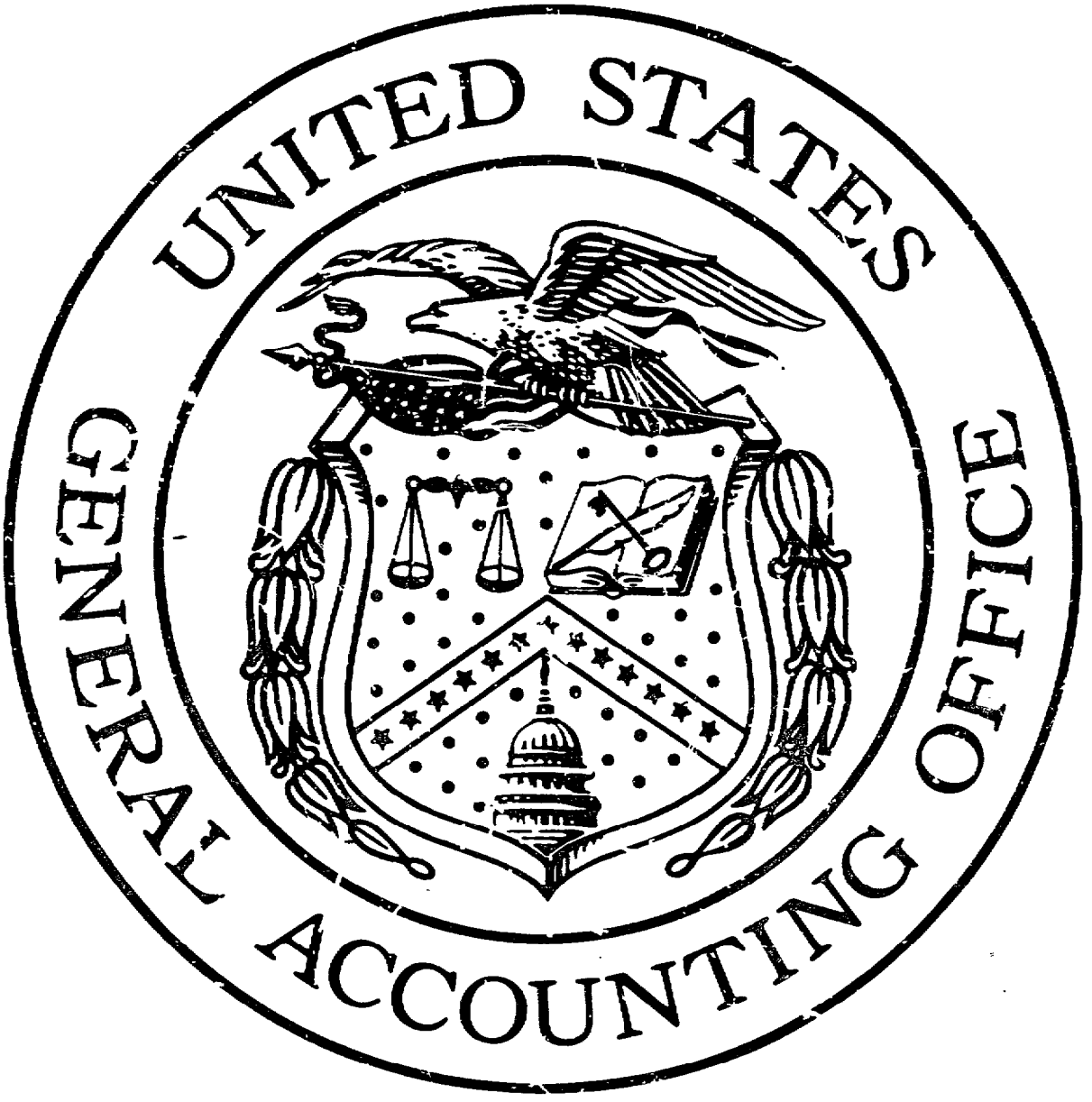
Fiscal year	Organization	Audit reports	Staffdays	Expenditures (millions)
	--Departmental Administration			
1973		9	978	$ d/
1974		23	2,371	d/
1975		26	739	d/
	--Farmer Cooperative Service			
1973		-	-	2.0
1974		-	-	2.0
1975		-	-	2.5
	Conservation, Research, and Education Division:			
	--Forest Service			
1973		11	1,197	41.0
1974		15	3,375	82.6
1975		20	1,096	332.8
	--Soil Conservation Service			
1973		14	1,510	306.6
1974		14	1,576	352.1
1975		14	1,169	393.9
	--Extension Service			
1973		-	-	185.8
1974		7	453	193.4
1975		3	493	219.0
	--Agricultural Research Service			
1973		20	1,580	198.9
1974		2	108	210.1
1975		6	845	232.0

APPENDIX II

Fiscal year	Organization	Audit reports	Staffdays	Expenditures (millions)
	--Cooperative State Research Service			
1973		2	183	$ 82.3
1974		10	646	85.4
1975		12	302	95.8
	--Animal and Plant Health Inspection Service			
1973		31	1,723	308.2
1974		31	1,549	313.6
1975		34	1,461	343.4
	--National Agricultural Library			
1973		-	-	4.2
1974		-	-	4.5
1975		-	-	4.9
	Rural Development Division:			
	--Farmers Home Administration			
1973		345	6,261	c/ (146.9)
1974		593	13,225	1,685.4
1975		709	12,933	c/(1,020.1)
	--Rural Electrification Administration			
1973		-	-	549.9
1974		-	-	501.8
1975		-	-	c/(457.8)

Fiscal year	Organization	Audit reports	Staffdays	Expenditure (millions)
	--Rural Development Service	-	-	$ .6
		1	23	.8
		-		1.0
	Other:			
1973		2	159	d/
1974		5	106	d/
1975		17	630	d/
	Totals			
	1973	2,926	57,827	
	1974	2,787	60,451	
	1975	2,576	49,891	
	Total	8,289	168,169	

a/Most of the Food Distribution Program ended in fiscal year 1974.
b/Audits included in program totals.
c/Income exceeded disbursements.
d/Funding included with other accounts.


UNITED STATES
GENERAL ACCOUNTING OFFICE

DOCUMENT RESUME

00041 - [A0100077]

[Corps of Engineers Management Information System (COEMIS)]. B-163074; LCD-76-119. October 8, 1976. 8 pp.

Report to Secretary, Department of Defense; by Fred J. Shafer, Director, Logistics and Communications Division.

Issue Area: Automatic Data Processing (100).
Contact: Logistics and Communications Div.
Budget Function: National Defense: Department of Defense - Military (except procurement & contracts) (051); Natural Resources, Environment, and Energy: Conservation and Land Management (301); Natural Resources, Environment, and Energy: Water Resources and Power (302).
Organization Concerned: Department of the Army: Corps of Engineers, Fort Worth, TX.
Congressional Relevance: House Committee on Armed Services; Senate Committee on Armed Services.

The U.S. Army Corps of Engineers Management Information System (COEMIS) was reviewed to determine the thoroughness of the Department of Defense reappraisal of the COEMIS project and the current status of the system's development and implementation. COEMIS is intended to be a standardized system to operate with four primary subsystems: finance and accounting, personnel administration, resource allocation/project management, and real estate. The system was designed for use on the Honeywell G-437 computers located at nine of the Corps' regional data processing installations, with Honeywell G-225 computer terminals for access via telecommunications lines to the G-437 at other Corps' divisions and districts. Findings/Conclusions: The Department of Defense did not take adequate action on an earlier GAO report which pointed out potential problems with COEMIS. COEMIS is still in the process of being modified to correct known deficiencies. Given the limitations of the G-437 machines, a point may be reached beyond which continuing modifications and augmentation to COEMIS will be counterproductive. Recommendations: Before buying new equipment, consideration should be given to a new design of COEMIS to make it operational on modern computers using a machine transferable data management system with inherent capabilities, such as update and query languages, and to make it more fully responsive to user needs. (SC)

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

LOGISTICS AND COMMUNICATIONS DIVISION

OCT 0 8 1976

B-163074

The Honorable
The Secretary of Defense

Dear Mr. Secretary:

We have recently completed a review of the U.S. Army Corps of Engineers Management Information System (COEMIS). This work was performed under GAO code 941056. We examined various documents and reports and held discussions with responsible officials at Corps of Engineers Headquarters and within the South Pacific, Southwestern, North Pacific, and South Atlantic Divisions.

This review was to determine the thoroughness of the Department of Defense reappraisal of the COEMIS project and the current status of the system's development and implementation.

At the time of this review the Corps was planning to procure replacement hardware in 1978-80. This replacement is to occur before COEMIS is expected to be fully operational in 1981. We believe that, before buying new equipment, COEMIS should be redesigned to function on more modern equipment, using a machine transferable data management system, and be more fully responsive to user needs.

THE COEMIS DEVELOPMENT

COEMIS is intended to be a standardized system being developed by the Corps for use by its divisions and districts throughout the continental United States. It is intended to operate with four primary subsystems--finance and accounting, personnel administration, resource allocation/project management, and real estate. The system was designed for use on the Honeywell G-437 computers 1/ located at nine of

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1/ The Honeywell G-437 is no longer manufactured and there is a practical limit beyond which additional capacity can be provided.

the Corps' regional data processing installations. The Corps' divisions and districts not located at these centers generally use Honeywell G-225 computer terminals for access via telecommunciations lines to the G-437.

PRIOR REVIEW OF COEMIS

We previously reviewed the design and development activities of the Corps in developing an integrated automatic data processing system, which evolved into COEMIS. Based on that review, we issued a report to the Secretary of Defense entitled "Problems in Developing the Corps of Engineers' Automated Management Information System" (B-163074, Apr. 21, 1971). In that report we stated that considering the lack of a demonstration there was no assurance the system could serve its purpose adequately for an extended period. The report also stated that the Corps did not follow certain prescribed policies in acquiring equipment for a prototype installation. As a result the project needed to be reevaluated to reduce the risk of implementing a system which would have to be continually modified. At the time of our review, the system impact of the identified problems had not been assessed; therefore, we suggested the Department of Defense reappraise the project before additional equipment was purchased.

INADEQUATE PLANNING AND MANAGEMENT OF THE COEMIS DEVELOPMENT AND IMPLEMENTATION

In the report, we pointed out that if the development environment was not changed, continued modification would be necessary. We also reported problems in organization, operating procedures, and policies that could affect system needs.

We believe the reappraisal we recommended was not made before COEMIS was approved in May 1971. COEMIS has been modified numerous times since the prototype was approved as the standard system for the Corps in May 1971 (only 1 month after our report), and additional computer equipment has been procured.

At the time of our recent review, COEMIS was still in the process of being modified to correct known deficiencies and was being augmented by locally designed computer programs to meet regional information needs. This was especially evident with the finance and accounting subsystem. The Office of the Chief of Engineers was recently working on the subsystem's 21st version. An appreciable number of modifications to this subsystem have had to be written to correct problems which have occurred when implementing previous modifications. These types

of problems often occur in computer programs with interrelationships so complex that changes made to correct problems in one program adversely affect other programs.

In addition, the COEMIS development, which was initiated in 1966 had an estimated completion date of 1971. Four years later the system was not yet fully operational. The current estimate for completion of three of the four COEMIS subsystems is the end of 1977. The fourth subsystem pertaining to real estate has been deferred, pending a computer mainframe change. The deferral decision was apparently made after presentation of our preliminary findings to the Corps.

The Corps had not prepared an official document identifying the additional costs for the continued development and implementation of the system; however, a Corps official estimated the additional cost will be $10 million, excluding maintenance, to make the system completely operational by 1981.

MEETING USER NEEDS AT THE DIVISION AND DISTRICT LEVELS OF THE CORPS OF ENGINEERS

During this review, we found indications that (1) problems previously reported in implementing some of the COEMIS subsystems continue and (2) a number of users told us that they were not receiving adequate management information. However, the COEMIS subsystems have not been in operation long enough for us to evaluate fully their adequacy, or to determine whether the complaints were justified.

The issue is whether user needs at the division and district levels of the Corps, which should be satisfied by COEMIS standard programs, are being met by local computer programs.

INSUFFICIENT CAPACITY OF COMPUTER HARDWARE TO HANDLE INTENDED APPLICATIONS

COEMIS was intended to be used on the Honeywell G-437 computers located at its nine data processing installations. Some of the divisions were approaching saturation on their G-437 computers with only partial implementation of the finance and accounting and personnel administration subsystems. The problem of equipment saturation, experienced by COEMIS, was related to the premature acquisition of equipment, before user needs were effectively translated into automated data processing requirements.

The Corps has been aware of the problem of system saturation for some time. In 1971 an analysis of processing time by the Southwestern Division showed the finance and accounting subsystem could barely be processed on its G-437 computer and additional applications would be almost impossible. This problem was also identified in the 1974 Department of the Army report entitled "Review of Computer Applications and Programs" (ROCAP). Several alternatives were discussed in the report, but the Army decided the use of hardware enhancements would be sufficient to reduce the severity of the saturation problem if COEMIS were modified in scope.

Although the impact of placing the other subsystems on the division computers was unknown, some Corps officials believed system saturation was imminent due to the increased information demands on the system. According to a Corps official, the Office of the Chief of Engineers had awarded a contract to develop procedures to improve the efficiency of COEMIS, including reducing the saturation problem.

POTENTIAL PROBLEMS IN COMPLYING WITH FEDERAL REQUIREMENTS FOR SUBSEQUENT COMPUTER SYSTEM CONVERSIONS

Federal agencies are required to follow, to the extent possible, competitive procurement policy when obtaining computer hardware. This is stated in Federal Management Circular 74-5, which requires that systems specifications be designed to insure free and open competition to all responsible suppliers, manufacturers, and vendors. In addition, Federal Property Management Regulation 101-32.4 requires agencies to obtain full and complete competition in all automated data processing acquisitions, including the renewal of leases and purchases of installed and leased equipment. We believe the method by which the Corps has been managing the development and implementation of COEMIS will force it into a position whereby it would be impractical to comply with these requirements for its planned procurement of replacement hardware during the period fiscal years 1978 to 1980.

The 1974 ROCAP study indicated that COEMIS is essentially dependent on the Honeywell G-437. The study stated that the business oriented programming language (Integrated Data Store or IDS-COBOL) is designed specifically for the Honeywell equipment and "* * * reprogramming for other equipment would require

tremendous effort and costs." For this reason, the workload would have to be shifted to another Honeywell system. Officials of the Honeywell Corporation told us the IDS programming language is dependent on Honeywell computers and COEMIS uses IDS in managing its data file structures. We believe the problem of machine dependency becomes a more serious issue as saturation approaches. The difficulty to convert to another manufacturer's computer increases, because of the pressing short-term need to process the additional workload on compatible equipment. As a result, it may become more economical and efficient to retain the present vendor, to the detriment of competitive procurement.

IDS is a member of a class of supervisory software called data base management systems. The data base management system provides for access to and control of the data base and its data files and records. In addition, a data base management system or language can include the capability to provide the nonprogrammer user with data update and query abilities without having to rely upon a computer programmer to make the update or make the query.

A limitation of IDS is that it does not have inherent language capabilities for modifying a file with the latest transaction (update) and for inquiry into a file (query). These functions require additional computer programming. The use of IDS resulted in the development of common business language (COBOL) programs for COEMIS for update and/or query that would not necessarily be required with other data management systems, thus avoiding the cost and time involved in such programming.

We are aware that at least one proprietary data management system is available to accept an IDS data base from Honeywell computers for use on another brand of computers. This capability would allow for limited competition in new procurement. However, the data base management system does not provide for update and query for the nonprogrammer as an inherent part of the system or its language.

In our following discussion, we use the term machine transferable data management system or language to indicate a specific class of language that can be readily recoded and/or recompiled on two or more general purpose computers. The opposite class would be called machine dependent.

We addressed the problem of machine dependent software in our report to the Committee on Appropriations, House of Representatives, entitled "Problems in the Acquisition of Standard Computers for the World-Wide Military Command and Control System" (B-163074, Dec. 29, 1970). Specifically, we suggested that automated data processing planners consider advances in computer software technology, such as machine independent (transferable) data management systems. We stressed that these data management systems would allow competitive acquisition of computer equipment for future requirements as the modernization program continues, regardless of which manufacturer won the initial competition. In a subsequent letter report to the Secretary of Defense (B-163074, July 21, 1975) on the World-Wide Military Command and Control System, we reaffirmed our position on the issue of machine transferability. In that letter report we noted that the data management system for the World-Wide Military Command and Control System was primarily machine (Honeywell) dependent and that further investment in that system would compound the problem of obtaining competition for future procurement of equipment.

CONCLUSIONS AND RECOMMENDATION

The Department of Defense did not take adequate corrective action on our April 21, 1971, report which pointed out potential problems with COEMIS. Since the prototype was approved in May 1971 as the standard system for the Corps, COEMIS has been modified numerous times. It is still in the process of being modified to correct known deficiencies.

Given the limitations of the Honeywell G-437 machines, we believe that a point may be reached beyond which continuing modifications and augmentation to COEMIS will be counterproductive. If so, a new COEMIS design and/or new computers with greater capacity could prove more cost effective for the Corps over the long term.

If the development of COEMIS was accomplished on a more modern computer system using a machine transferable data management system, then future computer procurement could involve competition between a number of vendors. The use of a machine transferable data management system not requiring extensive higher level computer language coding for update and query could also enhance the development of COEMIS for the nonprogrammer user and would be compatible with modern concepts.

The key point concerning coding is the convenience of the nonprogrammer user who is query oriented and prefers a simple command language to meet his needs in answering a query. Such

commands are available primarily in a data management system that does not require extensive higher level computer language coding for update and query.

More modern data processing network concepts should be explored before expanding every existing COEMIS computer installation. For example, one conceptual alternative for the 1978 to 1980 time frame could be a design based on east and west regional data processing centers with minicomputers and remote terminals for the Corps' divisions and districts. This type of network environment could readily support interactive processing.

We believe that future developments of COEMIS, such as the planned procurement of replacement hardware, should be accomplished on a "fly before you buy" basis. Our reasoning is that problems, such as the current capacity limitations in the G-437 machines, should not be permitted to recur in the planned computer acquisition.

We agree with the actions taken by the Corps to defer development of the real estate subsystem of COEMIS. We believe that full reevaluation of COEMIS should be made with the objective of developing a formal and comprehensive plan specifically addressing

--actual versus planned project milestones and costs for COEMIS development;

--the adequacy of COEMIS in providing the Corps' divisions and districts with the information they need to effectively manage their activities;

--the effects of computer system saturation on the long-range prospects for full implementation of COEMIS;

--the need for actions to place the Corps in a position to obtain effective competition for future procurements of replacement hardware; and

--alternate system designs for future COEMIS, such as east and west regional data processing centers instead of nine regional data processing facilities.

In conjunction with these efforts, we recommend that consideration be given to a new design of COEMIS to make it operational on modern computers using a machine transferable data management system with inherent capabilities, such as update and query languages, and be more fully responsive to user needs.