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Dear Mr. Podesta:

The General Accounting Office has conducted a survey of the Economic Development Administration's (EDA) computerized information system. Our survey included interviews with EDA officials and made use of a questionnaire to obtain comments from EDA and non-EDA officials familiar with the system.

Our survey indicated that, with some notable exceptions, the users of EDA's information system are satisfied with the quick query and recurring computer printouts presently being received from EDA's Information System Services Division (ISSD). However, while we have not made a detailed review of the system, we believe that the matters observed during our survey demonstrate weaknesses in the planning, operation, and administration of the information system.

It appears that EDA did not sufficiently study its ADP requirements prior to awarding a contract to California Analysis Center, Inc. (CACI) to design and test a computer-oriented information system and that the time span between the request for proposal and the date the proposals were to be submitted was not sufficient to allow the prospective bidders to submit meaningful proposals. We also noted what appears to be problems in the operation and administration of the system. These included: (1) a continuing contract with CACI beyond what appears to be a reasonable time period, (2) ISSD personnel devoting effort to filling out quick query forms rather than devoting full time to systems maintenance, (3) need for procedures to evaluate the need and costs of further additions to the data base, (4) need for procedures to determine the types of computer reports required by EDA top and middle management, and (5) need for file maintenance procedures to ensure accurate and complete data.

Our observations and our recommendations are discussed below.

INTRODUCTION

In June 1966, EDA entered into a 13-month cost-plus-fixed-fee contract with CACI for $380,000 to design and test a computer-oriented information system. CACI determined during the system's design stage that to satisfy EDA needs, the system should have two basic capabilities: (1) rapid retrieval of information (Quick Query) and (2) reports of a recurring nature to offices within EDA (Management Information System).

EDA files revealed that CACI was to accomplish the following main objectives under the contract.

(1) <u>Systems Analysis and Design</u> – including an analysis and description of those functions of organizational elements of EDA which should be incorporated into a computerized reference system, a justification for implementing the system, and a soft-ware design.

(2) <u>Hardware Evaluation</u> – evaluating and comparing ADP equipment on the basis of costs (costs of installation, rental, or purchase), serviceability, flexibility, speed, processing time, existence of backup facilities, amount of assistance necessary, and whether the equipment will do the required job in the alloted time.

(3) <u>Develop Library Program and Data Base</u> – identifying and coordinating those data files that are available at reasonable costs and offer an immediate value to EDA personnel.

(4) <u>Provide Special Programming Services</u> – to assure optimal utilization of the computerized reference system after it is implemented.

As of July 14, 1970, EDA had authorized 22 modifications to the original contract at a total additional cost of about $1.6 million and extended the contract completion date to October 1970. EDA also entered into a 6-month personal service contract in October 1966, with Automation Technology Incorporated (AUTOTECH) for an initial cost of $30,000. The contractor was to provide systems analysis and programmer services in connection with the development of EDA's computerized information system. EDA authorized 12 modifications to the original 6-month contract at an additional cost of $172,885. The modified contract for $202,885 expired August 15, 1969.

The system developed by CACI is a general purpose computer-oriented system to supply information to EDA managers engaged in research, planning, operations, management, and administrative functions. EDA also makes its information system services available to other Federal agencies, State and local governments, and universities. The system is called the Comprehensive Information System and Data Base and consists of (1) a large data base comprised of EDA project data, accounting data, and socio-economic data; (2) computer programs for retrieving, manipulating, and printing of requested data; (3) computer equipment; and (4) a 33-man Federal staff to help satisfy the data and data processing needs of EDA. Project data includes project description, location and status of construction; accounting data includes information on obligations and disbursements, and socio-economic data includes population statistics, median family income, etc.

SYSTEM DEVELOPMENT

On March 10, 1966, EDA sent Requests for Proposals (RFP) to eight potential contractors soliciting proposals for designing a mechanized information system and data base for EDA. The RFPs suggested five development phases for the EDA system as follows: (1) refine existing statements of EDA goals and within these goals, establish potential ADP applications and requirements, (2) assist EDA management in consideration of the results of phase (1), (3) conduct feasibility studies to determine maximal mix of man-machine components, (4) after EDA concurrence, deliver a final system design including plans for implementation and operation of the adopted system, and (5) develop and propose criteria and benchmarks to help select equipment contractors. The RFPs suggested that offerors should be capable of commencing work upon award expected before April 30, 1966, and that the entire work was to be completed in 1-year. The RFPs also stated that if an offeror believed that the EDA mission could be accomplished more effectively through a different approach or data system, the rationale for such an alternate approach should be included.

The offerors' proposals were due by April 1, 1966, allowing approximately 3 weeks for submission of contractors' proposals. It appears that 3 weeks is an unusually short period to allow for preparation of the required proposals and that 3 months would have been a more reasonable period.

Although the RFPs and the resulting contract with CACI provided that the contractor furnish a written feasibility type report (the cost-benefit, man-machine mix types of analyses), no such report was furnished to EDA. We believe that a feasibility study presented to top management for its analysis would have been helpful in deciding whether to proceed with the design and implementation of the computerized information system. The Bureau of the Budget (BOB) Circular A-54, issued October 14, 1961, requires that a feasibility study be made prior to acquiring ADP service and equipment. BOB Bulletin 60-6 issued March 18, 1960, establishes the guidelines for such a study and states that experience in the Federal Government has demonstrated that a thorough analytical study should be conducted before decisions are made relative to the economic and operational feasibility of any ADP application.

An EDA memorandum dated January 4, 1966, indicated that the contractor should not be permitted to begin his system design until a full-fledged requirements study based on projections for at least ten years had been completed. The memorandum indicated also that the system design should not precede a feasibility study which considers existing systems and equipment, potential organization and workload variations, and the availability of service organizations and commercial links.

The memorandum stated that if the contractor started designing a system before establishing meaningful requirements, the contractor and not EDA, would be responsible for dictating the course of EDA's future development.

It appears that the lack of a feasibility study and failure to identify specific objectives of the system has contributed to the extension of an initial 13-month contract to a 4-year contract with the strong possibility of further extensions.

The following statements extracted from EDA correspondence provide further indications of this possibility:

"EDA is virtually a captive of its contractor" (March 4, 1969)

"The EDA can neither afford the loss of contract productivity nor the additional cost of training and orientation by EDA personnel. At this time experimentation with a new contract source with concurrent loss of the CACI skills and knowledge does not appear to be in the best interest of EDA or the Government (February 5, 1970)."

MANAGEMENT INFORMATION SYSTEM

The most recent listing of recurring reports, dated September 1969, indicates that the management information system is producing approximately 60 different reports, ranging in frequency from weekly to annual issuances. These 60 reports have a range in distribution from one copy to 23 copies with a total overall distribution of about 11,000 copies annually. The recipients include EDA/Washington, and area offices, and some select offices within the Department of Commerce.

Interviews with several EDA officials and EDA respondents to our quick query questionnaire who are also recurring report recipients indicated that the management information system may not be producing the type of recurring summary reports needed by EDA's middle management in its assistance to top management. For example, EDA records indicated that during the preparation of a report needed by top management, attempts were made to use as much of the available information that could be retrieved from the information system. In that instance, it was one EDA official's opinion that it took more staff time to prepare the report with the data obtained from the system than probably would have been used if the whole report had been prepared manually.

Recipients of recurring reports informed us also that in some instances they had received reports which were inaccurate, not timely, and not programmed correctly. An Economic Development Order (MEDO) dated July 30, 1968, lists some of the objectives of the Reports Management System as follows: (1) establish procedures for the initiation, clearance, and establishment of new reports, (2) assure that the reports are adequate, accurate, and timely, and (3) determine that distribution and frequency of reports meet established needs. The Order also prescribes procedures for a reports management officer to act as a control point where existing, revised, and new reports for EDA are to be evaluated.

An EDA official informed us that the procedures for the initiation, clearance and establishment of new reports are not presently being followed and that there is no reports management officer.

RECOMMENDATIONS

We recommend that EDA review the usefulness of summary reports presently prepared to assist top management in decision making, and revise reporting requirements where necessary. Further, we recommend that EDA consider designating a reports management officer to evaluate reports being provided by the Management Information System.

QUICK QUERY OPERATIONS

EDA publications indicate that one of the advantages of the quick query program is that it provides personnel with the capability to request and obtain information from the computer system without the use of a programmer. Nonprogrammers attend a 2-day seminar on how to complete specially designed quick query forms. Each person attending the seminar is given a technical dictionary containing information on what is in the system's data base and how the information can be retrieved. The user can limit his request to specific information so that the printout will include only the data he requires, such as data on counties in the United States with a population over 10,000.

An ISSD official stated that upon request, his division also provides dictionaries to EDA and non-EDA personnel who have not attended the seminars. According to this official, of approximately 450 persons who have attended the quick query seminars, about 260 have expressed a desire to remain on ISSD's list of current users.

We sent a questionnaire to a random sample of 89 individuals whose names appeared on ISSD's list of current users to solicit information as to the usefulness of the quick query operations. The sample represented individuals from EDA Washington and field offices, other Federal agencies, State agencies, private industry, and academic institutions. Of the 89 individuals solicited, we received responses from 73.

The projected results of our questionnaire indicated that only about one-third of the users of quick query are filling out their own forms. The reasons given by users for not completing the forms were that the task was too time consuming, they lacked familiarity with quick query forms because they used them infrequently, the technical dictionary supplied by ISSD was incomplete, and the data elements in the data base were not adequately described. One user from another agency indicated that the agency had hired CACI to fill out the quick query forms although they were supposedly designed so that the user could fill them out without assistance. An ISSD official stated that his division was processing about 450 quick queries a month for EDA users as well as users from other agencies and of these, 300 were being filled out by ISSD.

On the basis of replies to questionnaires, it appears that unless a person within an operating group fills out quick query forms frequently, he may not remain familiar with ISSD procedures. Also, if a person in ISSD is not familiar with the activities of the operating group, he may not understand exactly what data the user is trying to obtain from the system.

RECOMMENDATION

We recommend that EDA consider assigning specific individuals, within the operating groups, the function of filling out the quick query forms. This procedure would allow ISSD personnel to devote full time to systems maintenance and computer operations rather than applying part of their efforts to the manual task of filling out the quick query forms.

DATA BASE

EDA records indicate that the system's data base is comprised of socio-economic data and EDA project and accounting data all of which is obtained from approximately 20 sources. We noted that the largest source of the socio-economic data relating to population and personal income has been the Bureau of the Census and that EDA project data was obtained from operating divisions at EDA headquarters and various EDA field offices.

The results of our quick query questionnaire indicated that 31 of the 73 respondents or about 42 percent had not used the system since it became operational in 1967 and another 22 respondents or about 30 percent of the users had used the system five times or less. Some attributed their infrequent use or non-use to outdated and incomplete data in the system's data base while others indicated that the information they needed was not presently in the data base. One respondent stated that the information in the data base was outdated and lacked much of the kind of data needed for his analysis. Another respondent from an EDA area office stated that information obtained from manual records was more current and more readily available than that available from the computer system.

While we noted that there are directives from EDA top management regarding the data to be included in the data base, we believe that the directives do not ensure that the data in the data base is up to date, complete, and accurate. For example, we obtained a report from the system which showed that construction of 49 projects was in-process as of June 30, 1969. We attempted to verify the information in the report and found that six of the projects had actually been completed as of that date. EDA officials informed us that in the absence of specific directives, data contributors employed varying interpretations as to how data should be classified. One office supplying inputs interpreted the term "projects" to be synonmous with "contracts" although frequently more than one contract may be involved in a project. As a result, the number of projects reported was inflated.

EDA officials informed us also that the BOB (now the Office of Management and Budget) changed its classification codes of business establishments in 1967. The classification codes are used to categorize establishments, according to their activities and to promote uniformity and comparability in the presentation of statistical data collected by various agencies. As a result, information relating to similar establishments was included in the data base either under the old or new classification codes. In instances where the user was unfamiliar with the classification code changes and did not place both the old and new codes on the quick query forms when requesting information, he may not have obtained all the desired information.

In connection with EDA's determination of users' needs, we noted that in August 1966, EDA established an advisory group comprised of officials from various offices within EDA to evaluate the various operations of EDA offices and assist the contractors (CACI and AUTOTECH) in determining the data requirements of EDA.

A memorandum prepared by the Chief of ISSD, dated October 13, 1966, referred to the efforts of the advisory group, as follows:

> "So far, the response has been marginal. Participation at the last meeting was spotty, again indicating a lack of awareness or interest in the end product of the CACI system development."

A later memorandum prepared by the same official, dated March 6, 1968, described the advisory group's progress as follows:

"It was our intent to make the advisory group an integral part of system development and to assure all concerned that the interests of each organization were being considered. Unfortunately, the advisory group has not functioned as anticipated, either in terms of attendance or interest."

As indicated in BOB Bulletin 60-6, it is important for a study group to determine along with staff personnel, the data requirements which are considered necessary to aid management in operations of the agency.
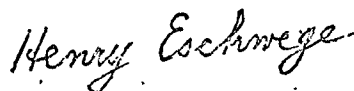
RECOMMENDATIONS

We recommend that EDA establish procedures to evaluate the need and costs of further additions to the data base to expand the capability and use of the system. We also recommend that EDA's top management reexamine the manner in which the data base is maintained in order to improve the accuracy, reliability, and completeness of the data base.

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We appreciate the cooperation extended to our representatives during the review, and we will be glad to discuss our report with you if you so desire. We plan no further reporting on the matters discussed in this report at this time; however, your comments on the action taken or contemplated on our suggestions and recommendations will be appreciated.

A copy of this report is being sent to the Assistant Secretary for Administration and the Director, Office of Audits, Department of Commerce.

Sincerely yours,

Henry Eschwege

Henry Eschwege
Associate Director

The Honorable Robert A. Podesta
Assistant Secretary for
   Economic Development
Department of Commerce