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BY THE U.S. GENERAL ACCOUNTING OFFICE

**Report To The Director, U.S. Arms Control And  
Disarmament Agency**

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**Need To Improve Management Of ACDA's  
Automatic Data Processing And Operations  
Analysis Functions**

ACDA has not comprehensively planned and evaluated its use of automatic data processing systems and operations analysis, and is not complying with executive branch guidance on computer security and cost accounting.

In October 1982, as part of a series of cost saving steps, ACDA abolished its Office of Operations Analysis and transferred the analysts elsewhere in the Agency. Disagreement exists within ACDA regarding the adequacy of this reduced level of operations analysis capability to meet future needs.

GAO recommends that ACDA develop an automatic data processing planning process and cost accounting system, comply with computer security guidance, and periodically assess and adjust its operations analysis requirements if necessary.



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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

NATIONAL SECURITY AND  
INTERNATIONAL AFFAIRS DIVISION

B-212009

The Honorable Kenneth L. Adelman  
Director, U.S. Arms Control and  
Disarmament Agency

Dear Mr. Adelman:

Following our testimony in March 1983 before the Subcommittee on International Security and Scientific Affairs, House Foreign Affairs Committee, the Chairman and Ranking Minority Member of the Subcommittee asked us to examine the (1) management of computer-based support functions, (2) adequacy of internal controls, and (3) management of arms control research programs, at the Arms Control and Disarmament Agency (ACDA). This report, which discusses weaknesses in ACDA's management of computer-based activities, is one in a series of three reports addressing issues raised by the Subcommittee.

ACDA has used automatic data processing (ADP) and operations analysis for more than 15 years. In 1977, ACDA replaced its Operations Analysis Division with an Office of Operations Analysis (OA). OA was responsible for performing quantitative and interdisciplinary studies, and reported directly to the Office of the Director. In 1979, in an effort to reduce its reliance on commercial timesharing services, the Agency acquired a Digital Equipment Corporation DEC-20 computer. At the end of fiscal year 1982, however, ACDA abolished OA (then located in ACDA's Rosslyn, Virginia, offices); transferred its analysts to other parts of the Agency and gave them new titles; and cancelled its contract for the DEC-20 computer. ACDA kept its small Wang computer (purchased in 1976) and purchases time-sharing services from other agencies.

During hearings on ACDA's authorization for fiscal years 1984 and 1985, the Congress expressed interest in ACDA's decision to abolish OA, and in whether any savings resulted. ACDA stated that OA was abolished, in part, to help cope with an estimated 7.9 percent fiscal year 1983 budget reduction imposed

by the Office of Management and Budget (OMB).<sup>1</sup> ACDA has responded to a congressional inquiry regarding OA-related savings by claiming that over \$1.3 million was saved in fiscal year 1983 by relocating ACDA's Rosslyn facility. However, we estimate that only about \$683,000 in savings can be properly attributed to ACDA's actions regarding OA and computer support. (ACDA disagrees with our analysis of its claimed savings: see appendices IV and VI.)

Currently, ACDA does not adequately plan for or evaluate the use of ADP systems. Moreover, it is not complying with OMB guidance on computer security, although we are not aware of any loss of data. Considerable disagreement exists within the Agency concerning the adequacy of operations analysis capabilities to meet future needs, for which ACDA has not systematically planned. Further, ACDA has limited access to Department of Defense operations analysis resources.

To address these issues, we recommend that the Director, ACDA

- develop a comprehensive ADP planning process that requires top management involvement, well-supported justification of stated needs, and periodic feedback from users;
- implement an ADP cost accounting system which complies with OMB guidance;
- establish a computer security program which complies with OMB requirements; and
- periodically assess ACDA's operations analysis needs and capabilities, and determine what adjustments in allocated resources, organizational structures, and access to other agencies' resources are required to best meet identified needs.

We requested comments on this report from ACDA, the Office of Management and Budget, and the Department of Defense. Subsequently, an OMB representative told us that, although OMB

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<sup>1</sup>Initially, OMB reduced ACDA's budget by 7.9 percent. (Because a subsequent supplemental request for \$564,000 was approved by the Congress, however, ACDA's fiscal year 1983 budget authority will actually be 4.5 percent less than in fiscal year 1982.) For comparison, the four largest agencies with international responsibilities (all of which are considerably larger than ACDA) received operating budget increases from OMB ranging from 1.5 to 42.1 percent.

would not provide separate comments, it had concurred with the comments submitted by ACDA.

In his response to our draft report, ACDA's Director stated that parts of the report would be useful to ACDA as it continued to review its practices and procedures, and that he is initiating four reviews, covering (1) ADP planning procedures, (2) computer security, (3) ACDA's operations analysis needs, and (4) the Paperwork Reduction Act of 1980. However, he did not comment on our recommendation that ACDA implement an ADP cost accounting system which complies with OMB guidance. We believe that ACDA should have such a system and the Director should include its requirements in the Agency's review of ADP management.

The Director stated his belief that certain sections of our draft report required clarification or correction, and he enclosed detailed comments. The Director's comments and our analysis are in appendix VI.

We received unofficial comments from a Department of Defense official indicating that the Department would have no substantive comment on our findings and recommendations.

A full discussion of our work is included in the appendices.

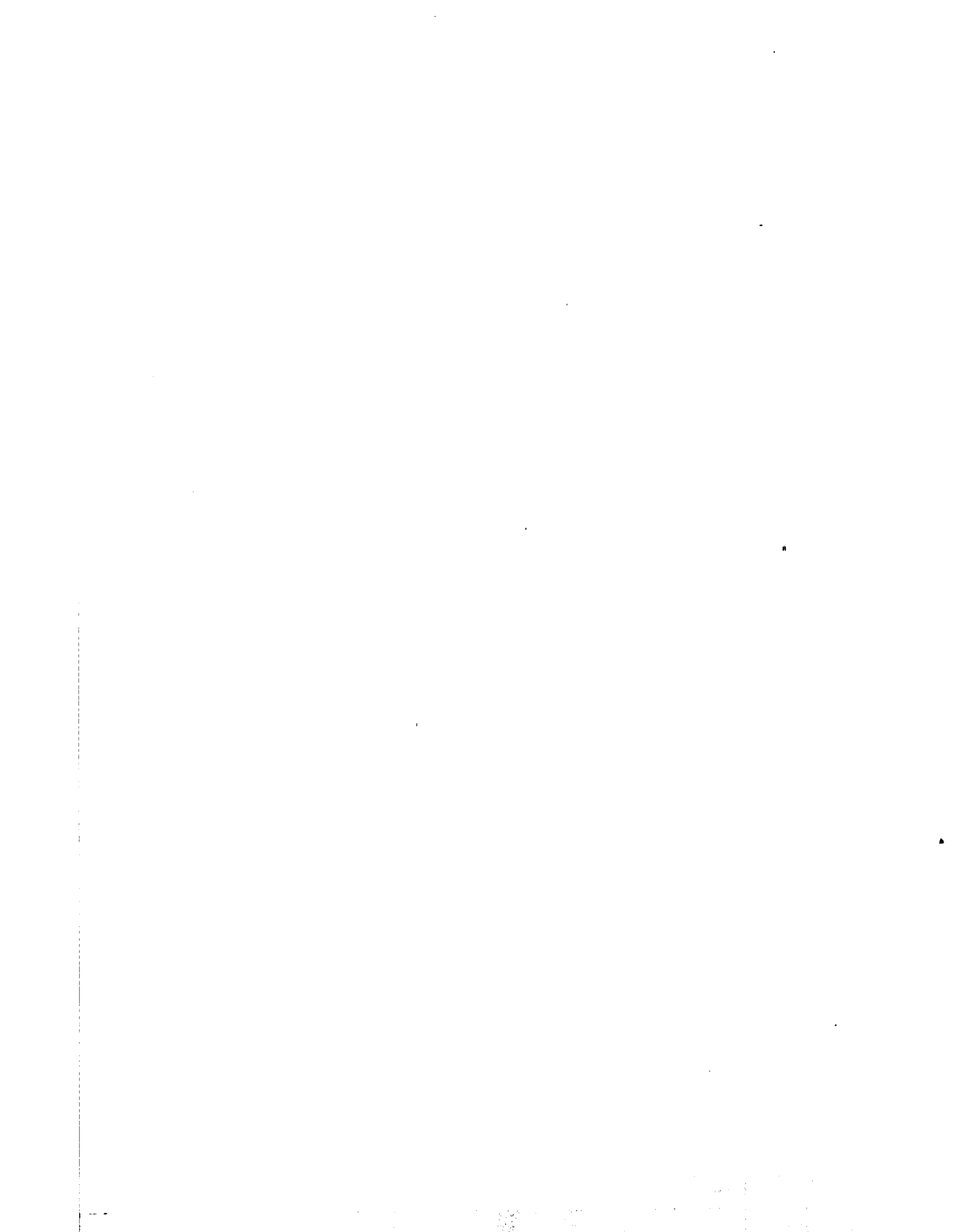
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As you know, 31 U.S.C. §720 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of this report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the requestors; the Director, Office of Management and Budget; the Secretary of Defense; the cognizant congressional appropriation and authorization committees; and others upon request.

Sincerely yours,

  
Frank C. Conahan  
Director



## C o n t e n t s

	<u>Page</u>
APPENDIX	
I     NEED TO IMPROVE MANAGEMENT OF ACDA'S AUTOMATIC DATA PROCESSING AND OPERATIONS ANALYSIS FUNCTIONS	4
ACDA does not have the comprehensive ADP management it needs	5
ACDA officials disagree over operations analysis; a thorough review of needs could help	11
Conclusions	17
Recommendations	18
Agency comments and our evaluation	18
II    OBJECTIVES, SCOPE, AND METHODOLOGY	19
III   ACDA ADP ASSETS	20
Management, organization, and personnel	20
Equipment assets	20
Software assets	21
ADP costs	23
Access to DOD operations analysis resources	24
IV    SUMMARY OF THE OFFICE OF OPERATIONS ANALYSIS ABOLISHMENT AND GAO'S ANALYSIS OF ACDA'S CLAIMED SAVINGS	26
Actions taken	26
Rationale for abolishing OA	28
Cost reductions will be less than stated	30
V     CURRENT ACDA USE OF ADP FOR DATA RETRIEVAL AND OPERATIONS ANALYSIS	34
Data retrieval	34
Operations analysis	35
VI    LETTER DATED SEPTEMBER 12, 1983, FROM THE DIRECTOR, ACDA	37

## ABBREVIATIONS

ACDA	Arms Control and Disarmament Agency
ADP	Automatic Data Processing
CS	Computer Services Group
DEC	Digital Equipment Corporation
DOD	Department of Defense
GAO	General Accounting Office
IBM	International Business Machines
MA	Bureau of Multilateral Affairs
NWC	Bureau of Nuclear and Weapons Control
OA	Office of Operations Analysis
OMB	Office of Management and Budget
SP	Bureau of Strategic Programs
USRA	U.S. Railway Association
VI	Bureau of Verification and Intelligence



contributed to the decision. We found that the only actual budget savings resulted from cancellation of the DEC computer contract, other reductions in computer support, and actions unrelated to OA or computer support. Although ACDA has responded to inquiries regarding OA-related savings by claiming that it saved over \$1.3 million in fiscal year 1983 by "relocating ACDA's Rosslyn facility," we estimate that only about \$683,000 in savings can be attributed to ACDA's actions regarding OA and computer support. (See app. IV and app. VI for further information regarding OA's abolishment and our evaluation of ACDA's savings estimate.)

ACDA retains its small Wang computer and has reimbursable agreements for access to computers at the United States Railway Association (USRA) and the Department of State. It also has informal arrangements for some access to Department of Defense resources. The small Computer Services Group (CS) located within the Verification and Intelligence Bureau (VI) operates the Wang computer and is charged with providing computer support to ACDA. (See app. III for a description of ACDA's ADP assets.)

#### ACDA DOES NOT HAVE THE COMPREHENSIVE ADP MANAGEMENT IT NEEDS

ACDA does not adequately plan for or evaluate the use of ADP systems. Moreover, it is not complying with OMB guidance on computer security. As a result, ACDA management cannot be sure that (1) the level of resources employed is appropriate, (2) resources are directed to applications with the greatest potential for improving mission performance or productivity, or (3) computerized information is adequately protected. Greater attention to the requirements of the Paperwork Reduction Act of 1980 and other Federal guidance would help strengthen ACDA management of ADP resources.

#### ADP management systems needed to support decisionmaking

ACDA does not systematically (1) establish requirements for computer support and plan how these will be met or (2) determine the cost and performance of ADP systems. ACDA's present informal means for accomplishing these functions are inadequate. ACDA's past decisions have been made without the benefit of comprehensive knowledge of ADP support needs or the cost-effectiveness of its ADP systems. This situation does not necessarily mean that ACDA's decisions were wrong. However, the lack of adequate planning and reporting procedures does raise questions about the scope and focus of, and justification for, ACDA's current ADP support activities.

NEED TO IMPROVE MANAGEMENT OF ACDA'S  
AUTOMATIC DATA PROCESSING AND  
OPERATIONS ANALYSIS FUNCTIONS

ACDA's use and management of ADP and operations analysis<sup>1</sup> resources falls within the general purview of public law and OMB guidance. The Arms Control and Disarmament Act of 1961 (Public Law 87-297), which establishes ACDA as the central organization in the U.S. Government for the formulation and implementation of arms control policy, specifies that ACDA "must have the capacity to provide the essential scientific, economic, political, military, psychological, and technological information upon which realistic arms control and disarmament policy must be based." The Paperwork Reduction Act of 1980 (Public Law 96-511) directs that each Federal agency shall carry out its information management activities "in an efficient, effective, and economical manner," and requires each agency to designate a senior official to oversee principal information management activities. Moreover, OMB has set standards for computer security, ADP cost accounting, and other ADP management functions.

ACDA began utilizing ADP and operations analysis over 15 years ago. By 1970 ACDA had established an Operations Analysis Division within one of its bureaus. Although initially dependent on contractor services for computer support, ACDA purchased a small Wang computer in 1976. In 1977 the Division was replaced by the Office of Operations Analysis, which reported directly to the Office of the Director. In 1979 ACDA, in an effort to further decrease its use of contractor computer services, entered into a 7-year lease-purchase arrangement for a Digital Equipment Corporation DEC-20 computer. From 1970 to September 1982 OA's staff--ranging from 8 to 14 analysts--prepared almost 1200 various products.

In 1982 ACDA abolished OA (then located in ACDA's offices in Rosslyn, Virginia), transferred and retitled the OA analysts, and cancelled the DEC lease-purchase arrangement. ACDA has stated that it abolished OA as part of an "Agency reorganization taking into account the budget." ACDA officials have also indicated that concerns regarding OA's efficiency and responsiveness

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<sup>1</sup>Operations analysis (also known as operations research) has been defined as "a scientific method of providing executive departments with a quantitative basis for decisions regarding operations under their control," and as "the application of scientific methods and techniques to decisionmaking problems." Operations analysts use computers as tools to help solve difficult problems.

ADP planning through the budget process, although they may informally state their needs to CS. In addition, the Chief of CS, who is responsible for providing ADP services to the entire Agency, told us that he is not involved in the budget process. The Budget and Accounting Officer told us that ongoing projects receive only a cursory review: essentially, they are funded at the previous year's level with an adjustment for inflation. While new proposals may be scrutinized more closely, he stated that cost/benefit studies are seldom, if ever, prepared.

ACDA is currently performing a computer acquisition study and the Agency has carried out similar ad hoc studies in the past when it contemplated major equipment purchases. Although studies of proposed equipment purchases are a valuable planning tool, they cannot compensate for the absence of a comprehensive, continuous ADP planning process which would periodically compare existing and planned capabilities.

Moreover, the current computer acquisition study may not include an accurate assessment of ACDA's data processing needs. The Chief of CS is charged with preparing a plan for acquiring a minicomputer to replace ACDA's Wang computer and its timesharing arrangement with the United States Railway Association, but he is concerned that a lack of resources and competing demands on his time may prevent him from preparing an adequate plan. The data processing needs he has identified have not yet been justified and the complete cost of meeting them has not been estimated. Also, since several bureau and division heads we interviewed were not familiar with this planning effort, it is possible that some valid ADP support needs have not been identified.

Better information on cost and performance of ADP systems is needed

ACDA has not complied with OMB guidance on ADP cost accounting, and it does not require data processing users to periodically report how well existing ADP systems are meeting their requirements.

ACDA does not have information on ADP costs needed to plan for and evaluate the use of ADP resources. OMB Circular A-121, which implements GAO's "Federal Government Accounting Pamphlet Number 4, Guidelines for Accounting for Automatic Data Processing," requires agencies to account for or estimate the total cost of each software program and the cost of providing computer services to each user. ACDA has not complied with these requirements. Compiling this information would help ACDA to

Improvements needed  
in ADP planning

Over the years we have emphasized the need for Federal agencies to establish a comprehensive planning process which would ensure that ADP resources are used in the best way to support agency missions and programs. Such a planning process would

- require involvement by top management of each major organizational unit in the agency;
- cover a time period consistent with that of the agency programs requiring data processing support;
- identify opportunities for improving productivity or effectiveness, based on the agency's missions and programs and on changes in ADP technology;
- validate and set priorities for meeting identified needs through cost/benefit studies;
- develop a strategy for meeting needs, establish criteria for measuring performance against the plan's objectives, establish decision points when performance would be assessed, and assign responsibility for implementing the plan; and
- provide for review by the internal audit staff or by some other means, to ensure that the plan supports mission requirements and that estimates are reasonable and based on factual information.

ACDA has not had a comprehensive ADP plan. ACDA maintains that it accomplishes ADP planning through ad hoc studies and the budget process.

ACDA's budget process does not (1) establish milestones for implementing plans, performance criteria that will measure how well a plan has met its objectives, or decision points for assessing performance; (2) directly involve user and data processing management; or (3) provide well-supported justification of stated needs. Without management involvement and well-supported justifications, the budget process lacks credibility as a vehicle for ADP planning. According to ACDA's Budget and Accounting Officer, data processing users do not participate in

stopped maintaining these models. We believe that a procedure for soliciting feedback from ADP users on a regular basis likely would have disclosed this situation earlier. Because ACDA does not record the total cost of maintaining software programs, we could not estimate the expense associated with these models. Contract costs alone, however, totaled about \$140,000 in fiscal year 1982.

As another example, ACDA cancelled its lease-to-ownership plan for a Digital Equipment Corporation DEC-20 computer at the end of fiscal year 1982 because, we were told, the computer was underutilized. Some officials told us that the computer should never have been acquired. Others told us that it was heavily utilized during the first 2 years of the lease, and that use had fallen off in fiscal year 1982 when contractor use of the computer declined due to external research budget cuts. However, because ACDA did not retain utilization records, we were unable to evaluate the decisions to acquire and then to dispose of the computer. The absence of such records would also impede ACDA efforts to assess the Agency's ADP needs.

Commitment is needed to  
strengthen ADP management

The Paperwork Reduction Act of 1980, by emphasizing top management involvement, offers ACDA's Director an opportunity to strengthen management of the computer support function. The Act requires each agency head to designate a senior official, reporting to the agency head, to oversee ADP and other information management activities. Specifically, the senior official is required to

- systematically inventory the agency's major information systems;
- periodically review its information management activities, including planning, budgeting, organizing, directing, training, promoting, controlling, and other managerial activities involving the collection, use, and dissemination of information;
- ensure that its information systems do not overlap each other or duplicate other agencies' systems;
- conduct and be accountable for ADP equipment acquisitions; and
- carry out other information management activities.

- assess the full costs of user requests for computer services,
- evaluate the relative worth of current and proposed systems on the basis of their total cost and their contribution to performance of agency missions and programs,
- make informed decisions as to whether systems should be designed and operated in-house or by outside sources,
- measure the efficiency and effectiveness of ADP services, and
- foster cost consciousness among ADP users.

In addition to inadequate cost information, ACDA has no system for periodically contacting data processing users regarding their satisfaction with current systems, changes they would like made, or systems that no longer meet their needs and should be terminated. ACDA's Administrative Director believes that such a system is not needed because users are free to raise concerns through the hierarchy to their bureau heads, who meet frequently with ACDA's Director and its Administrative Director. However, we believe that actively soliciting feedback from ADP users is necessary, because there is no incentive for them to ask that unneeded systems be terminated when they are not charged for establishing and maintaining these systems.

Informal ADP management  
has not worked well

ACDA management officials stress that ACDA is a small agency, and believe that informal management processes are adequate to ensure the best use of ADP resources. We recognize that ACDA should be able to manage its computer support activities without the complex mechanisms required by a very large department or agency. However, ACDA is not carrying out basic planning, reporting, and evaluating functions that are necessary in any agency, regardless of size. Recent situations suggest that ACDA's informal approach to ADP management is not adequate.

When contemplating computer support reductions to meet a fiscal year 1983 budget reduction, ACDA's Administrative Director asked bureau heads to provide comments on their computer support needs. He found that OA was maintaining several expensive computerized models which the line bureaus saw no need to retain. ACDA--on the premise that the Agency should not maintain models for which the line bureaus saw no use--subsequently

- conducted required audits or evaluations of computer security, or
- submitted the required plan to OMB for implementing a computer security program.

The Chief of CS believes that, although there are not written policies or procedures regarding computer security, personnel under his supervision take appropriate steps to safeguard data. Because he has not been assigned responsibility for implementing the OMB guidance, however, he believes he lacks authority to require all Agency users to take similar steps. He maintains that valuable data may be lost because backup copies of programs and files are not always maintained.

ACDA OFFICIALS DISAGREE OVER  
OPERATIONS ANALYSIS; A THOROUGH  
REVIEW OF NEEDS COULD HELP

Steps taken by ACDA over the past 2 years to reduce its operations analysis capabilities have led to disagreement within the Agency over the impact of those actions and the role operations analysis should play in the fulfillment of ACDA's mission in the future. A thorough examination of these issues by the new ACDA directorate is needed to determine the specific types of operations analysis capabilities ACDA requires. Because operations analysis is a program support function--like ADP--and because the need for such analysis apparently fluctuates greatly, periodic reexamination is needed to adjust ACDA's capabilities to changing support requirements. In examining and resolving these issues, the directorate would benefit from implementing our recent recommendations which call for

- comprehensive assessments of ACDA's legislative authority and determinations of ACDA's mandated scope and nature of activity; and
- determination of ACDA's proper role in coordinating arms control research throughout the executive branch.

ACDA has deemphasized  
operations analysis

Within the past 2 years ACDA has deemphasized operations analysis and reduced overall operations analysis capabilities by

- adopting a new and stricter policy to discourage initiation of analytical projects by operations analysts;

## APPENDIX I

The senior official is expected to have substantial, personal involvement in all aspects of ADP management.

However, ACDA's designated senior official believes that, in effect, the Act only requires him to assume responsibility for ADP acquisitions. He emphasized that (1) he takes his direction in this area from OMB, (2) OMB's Office of Information and Regulatory Affairs is aware of his interpretation of the Act, and (3) OMB has not required ACDA to submit the information management review plans required by OMB Bulletin 81-21, which implements the Paperwork Reduction Act.

The Office of Information and Regulatory Affairs confirmed that it had not received any information on ACDA's ADP management. The Office has not performed, and as yet has no plans to perform, the reviews of ACDA's information activities required by the Paperwork Reduction Act.<sup>2</sup>

Regardless of OMB's priorities, we believe that vigorously implementing the Paperwork Reduction Act would help ACDA improve its management of ADP resources. The Act incorporates good management practices, such as involving top management and establishing a focal point for responsibility and accountability, that can help control ADP resource acquisition and use.

### ACDA has not complied with OMB guidance on computer security

ACDA is not in compliance with OMB guidance on computer security. Although we are not aware of any loss, the Chief of CS believes the potential exists for accidental loss of valuable data because backup copies of programs and files are not always maintained.

Transmittal Memorandum Number 1 to OMB Circular A-71 requires the head of each executive branch agency to establish a computer security program, and sets minimum requirements for these programs. ACDA has not complied with this guidance because it has not

--assigned computer security responsibility to a management official,

--performed required risk analyses,

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<sup>2</sup>We reported that OMB has made limited progress in implementing the Act's provisions related to the acquisition, maintenance, and management of ADP resources, in "Implementing the Paperwork Reduction Act: Some Progress, But Many Problems Remain" (GAO/GGD-83-35, April 20, 1983).



been impaired to date. Some ACDA officials had found OA's work to be very helpful but others had made little use of OA and reported that its abolishment had no impact at all on the conduct of their work.

Arguments in favor of  
current arrangements

Some ACDA officials believe that the recent changes involving ACDA's operations analysis capabilities were appropriate. The arguments advanced to support the current arrangements included the following points.

- Placing analysts within the bureaus should enhance efficiency by improving responsiveness to bureau needs, minimizing self-initiated work by analysts, and allowing bureau directors to use the retitled analysts for other work when needed.
- The use of operations analysis has peaked and has now declined, and its applicability to current issues of concern to ACDA is uncertain. Some current issue areas are largely political and others involve technological shifts that have simplified needed analysis. A former official, who had played a key role in the decision to abolish OA, indicated that recent interagency policymaking activities have not depended heavily on operations analysis, while a high-level official downplayed the role of such analysis in the formulation of the U.S. START initiatives and the Scowcroft Commission findings.
- Policymakers are becoming increasingly aware of the limits of large computer models, diminishing the influence of such models. In any event, ACDA has retained the possibility of access to large strategic exchange models if and when needed, and has developed a smaller and cheaper (if less capable) exchange model for routine use.
- ACDA's current analytical capabilities are adequate. Prior to October 1982, ACDA had capabilities in excess of its needs.
- ACDA cannot afford to maintain a large operations analysis office during periods of severe financial constraints.

- abolishing OA, which had reported to the Director, and creating within VI a smaller, nonanalytical CS group and a single operations analyst position;
- reassigning OA's analytical staff to positions within the bureaus and giving them new titles and in some cases, duties not related to operations analysis; and
- canceling its lease of the DEC computer used for analysis, shelving two models formerly run on the DEC, and giving up its continuous access to large strategic exchange models located at a contractor facility.

ACDA management does not believe that these steps indicate a lack of ACDA interest in the appropriate use of operations analysis. Instead, we were told that these steps helped bring ACDA's operations analysis resources into closer alignment with its actual needs. (See app. IV for further information on the abolishment of OA.)

ACDA's bureaus and its Office of the Director still employ operations analysis but to varying degrees. ACDA is also using its ADP resources to meet important requirements for data retrieval. An overview of ACDA's current utilization of operations analysis and of ADP for data retrieval can be found in appendix V.

#### No consensus within ACDA on operations analysis

ACDA officials disagree over whether the current, reduced level of operations analysis capabilities and the existing organizational structure will reduce the Agency's ability to carry out its functions in the future. Some officials believe ACDA's ability to fulfill its mission may suffer if its operations analysis capabilities are not augmented or reorganized; others disagree. We could not determine the correctness of either point of view, due to (1) a lack of available documentation upon which to base an objective determination regarding the merits of the Office of Operations Analysis which existed before October 1982, current arrangements, or possible future arrangements; and (2) the subjective nature of many of the varying arguments.

Involved ACDA officials generally agreed that their effectiveness in the various interagency policy groups had not

--Although ACDA has not suffered any harm to date, the recent past may be a poor indicator of the future demand for operations analysis, given the recent turbulence in ACDA. Moreover, we were told by one official, ACDA has benefited from a store of knowledge built up by OA that will eventually be depleted.

The first of these arguments--the negative impact of a decentralized operations analysis system--appeared to be a focus of concern for some ACDA officials. They indicated that a central staff of analysts could better serve ACDA's needs. According to these officials, assembling a "critical mass" of analysts (about 5 or more) in a central staff could have three potential benefits: (1) analysts would be used more efficiently by giving them easier access to a broader range of knowledge; (2) the availability of independent, in-house evaluations of bureau products would be ensured because a central staff's analysts would be more likely to criticize a bureau's positions than analysts reporting directly to that bureau's management; and (3) a central staff, given some degree of freedom to initiate projects, could help anticipate the bureaus' future needs and take a longer-range view of problems than the bureaus could. Regarding the last of these three potential benefits, one ACDA bureau director informed ACDA's Deputy Director-designate that allowing the bureaus to, in effect, dictate the nature of all operations analysis projects would eventually harm the bureaus' interests. He indicated that the bureaus would use the analysts exclusively for their own immediate needs and, as a result, subsequently find themselves dependent on other agencies for comprehensive analysis.

The belief that ACDA may need a central operations analysis staff to effectively carry out needed projects is also shared by a consultant who advised ACDA in 1982 on the relocation and disposition of its computers. Although critical of OA, he believed that operations analysis cannot be effectively carried out under a decentralized system and that ACDA could lose considerable influence in the interagency policymaking process if it did not produce the computer simulations OA had been undertaking.

ACDA has not thoroughly evaluated  
its operations analysis needs

ACDA has not done a thorough evaluation of the operations analysis capabilities required in the future to fulfill its mission, nor has it decided how such requirements would be best met. Periodic, agency-wide planning for operations analysis would help provide ACDA's officials with some assurance that demands for such analysis would be met.

--Although ACDA needs some independent analytical capability, it should not try to compete with or duplicate the Department of Defense's operations analysis offices, given ACDA's resources.

Arguments against  
current arrangements

A number of ACDA officials at various levels in the Agency disagree with all or some of the above points. Some believe that ACDA's current level of activity and organization may not be adequate to efficiently address future needs. Two officials who supported the abolishment of OA, given ACDA's short term budget situation, nonetheless indicated that the type of work formerly done by OA could be useful--if not essential--to ACDA over the long term.

Arguments presented by concerned ACDA officials included the following key elements.

- The availability of independent, in-house evaluations of bureau products, the ability to anticipate future bureau needs, and other benefits (described below) will be lost if ACDA does not re-establish some form of central operations analysis group.
- ACDA no longer has an independent analytical capability. Officials told us they no longer could count on having the resources within ACDA to assess other agencies' positions as fully as in the past. One official went so far as to say that ACDA was "at [the Department of Defense's] mercy." Another noted that his division did not have the time to perform needed operations analysis.
- Some high-level ACDA officials underestimate the benefits of operations analysis, due to a lack of previous experience in Government agencies that use such analyses extensively.
- Large computer models still carry considerable weight and are needed by ACDA. Moreover, reactivating the large strategic exchange models would require several months even if staff and funding were made available.

both advantages and disadvantages for ACDA. Greater access conceivably could enable ACDA to maintain a lower level of in-house operations analysis capability and also allow ACDA to utilize large and complex models that are accepted as valid within DOD. However, increased use of DOD resources could raise questions regarding ACDA's independence in arriving at arms control policy recommendations. Moreover, DOD analysts doubt that the models themselves would provide ACDA with a great deal of benefit without the use of highly classified data bases that they believe DOD would be unlikely to share with ACDA.

Once ACDA has assessed its operations analysis needs, it must resolve the question of organizing its own operations analysis capabilities. As evidenced by our work, ACDA officials and others familiar with operations analysis have strong opinions regarding the advantages of different organizational structures for the efficient execution of operations analysis. The Director's prerogative includes the right to choose among various organizational options. For example, ACDA could

- continue the current decentralized system at existing or augmented levels of analytical personnel;
- establish an operations analysis group or division within VI;
- establish a central operations analysis office separate from the operating bureaus and under adequate management controls to ensure that an appropriate portion of its efforts is directed to serving the bureaus' immediate needs; or
- return to the pre-October 1982 structure, including allowing the operations analysis organization to do self-initiated work.

## CONCLUSIONS

Improvement is needed in all aspects of ACDA's ADP management, so that the Agency can assure itself that ADP resources are adequate and that they are directed to their best use. ACDA also needs to comply with OMB directives on ADP security. More formal management mechanisms are needed, but these need not be expensive or overly burdensome, since a small agency like ACDA should not require the complex procedures a much larger department or agency would use. Attention to the Paperwork Reduction Act of 1980, which stresses the need to establish a focal point of responsibility for planning and other managerial activities, should help ACDA's Director implement needed improvements.

Operations analysis-related planning efforts have been essentially limited exercises. The survey of ACDA's bureaus accomplished before OA was abolished was only intended to ensure that computer programs of immediate interest to the bureaus would not be lost. The current CS study of a possible mini-computer purchase is considering analytical programs, but only in the context of a one-time purchase of ADP hardware.

Planning for operations analysis may be complex. The demand is said by some Government officials to be very uneven (fluctuating between "peaks and valleys") and difficult to predict. This difficulty argues for periodic efforts to foresee potential demands and to prepare needed capabilities. Relying on sporadic or ad hoc planning exercises would logically tend to increase the likelihood that demands will arise unforeseen or that unnecessary resources will be maintained indefinitely. Moreover, long lead times may be needed to develop programs once demands arise.

In periodically determining the extent and nature of operations analysis capability needed by ACDA to fulfill all aspects of its mandate under the 1961 Arms Control and Disarmament Act, the Director should consider a number of key factors, including

- the expected scope and type of ACDA activities, given its legislative authorities. (We have previously recommended that ACDA assess such authorities and determine its proper role for fulfilling its research mandate.);
- the current and future needs of ACDA's bureaus and other users of operations analysis support;
- the degree to which ACDA needs the capability to adequately and independently evaluate the arms control-related positions and analyses of other U.S. agencies; and
- the need and opportunity to develop greater access to operations analysis capabilities of other agencies.

The potential importance of the last two of these points is illustrated by the fact that the Department of Defense (DOD) has at least two important operations analysis offices that prepare arms control-related analyses for use in the interagency policy-making groups. Broadening ACDA's currently limited access to certain DOD analytical resources (see app. III) could involve

OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of our review were to determine

--how ACDA uses operations analysis and computer support,

--how ACDA manages its computer support function, and

--why and how ACDA abolished its Office of Operations Analysis.

We conducted our examination at ACDA, the Office of the Secretary of Defense and the Joint Chiefs of Staff in the Department of Defense, and the Office of Management and Budget in Washington, D.C. We interviewed officials in each of these agencies, as well as Department of State and former ACDA officials. We also interviewed two consultants who evaluated the Office of Operations Analysis. We obtained ACDA reports, statistics, and records concerning computer support and operations analysis. We also reviewed legislation, OMB guidance, and General Services Administration regulations on ADP management.

In our analysis of ACDA's stated cost savings attributable to reductions in computer support and other actions, we generally relied on ACDA officials' representations concerning how savings for particular cost elements were determined. We questioned some savings based on our disagreement with ACDA's rationale for counting various cost elements as savings, but we did not verify the accuracy of stated costs or savings by examining source documents.

Our review was performed in accordance with generally accepted government audit standards.

ACDA officials disagree among themselves as to the potential impact of ACDA's current level of operations analysis resources and present organizational structure. Because, in part, of a lack of adequate ACDA records, we have not taken a position regarding the relative merits of these various points of view. Nonetheless, a number of officials indicated at least some degree of concern regarding ACDA's operations analysis capabilities. Because of this fact, as well as the potential difficulties in predicting demand for operations analysis support services, we believe that ACDA should periodically and systematically plan for operations analysis. Planning should help ACDA ensure that it will have the resources it will need to meet its responsibilities without maintaining unnecessary capabilities.

### RECOMMENDATIONS

We recommend that the Director, ACDA

- develop a comprehensive ADP planning process, which requires top management involvement, well-supported justification of stated needs, and periodic feedback from users;
- implement an ADP cost accounting system which complies with OMB Circular A-121;
- establish a computer security program which complies with Transmittal Memorandum Number 1 to OMB Circular A-71; and
- periodically assess ACDA's operations analysis needs and capabilities, and determine what adjustments in allocated resources, organizational structures, and access to other agencies' resources are required to best meet identified needs.

### AGENCY COMMENTS AND OUR EVALUATION

In commenting on our draft report, ACDA's Director stated that parts of the report would be useful to ACDA as it continued to review its management systems, and that he is initiating reviews covering (1) ADP planning procedures, (2) computer security, (3) ACDA's operations analysis needs, and (4) the Paperwork Reduction Act of 1980. Although he did not respond to our recommendation that ACDA implement an ADP cost accounting system which complies with OMB guidance, we believe that the requirements of such a system should be included in the Agency's review of ADP management. (The Director's comments and our evaluation are included as app. VI of this report.)



SOFTWARE ASSETS

The following tables list ACDA's major application software programs and their functions.

APPLICATION PROGRAMS RUN ON THE UNITED STATES RAILWAY  
ASSOCIATION'S DEC COMPUTER

ABATE	information on the status and disposition of conventional arms transfer cases
ACALS	central appointment management system
ACB	graphics utility programs used in CHARTS, MAP, and other programs
ADMINISTRATION	maintains contract files
AIRS	keyword document retrieval system
CHARTS	specialized graphics program
CONCH	maintains contract files
EPF5	calculates effective fallout shelter protection
EXODEF, MISDEF	computes the survival probability of an MX missile in different circumstances
FALOUT	plots distribution of radiation from a nuclear exchange
KIPPER	index for microfiche files
MAIL	terminal-to-terminal communication
MAP, RMAP, SMAP	contour and range mapping utility programs
MILDAT	data on U.S. and Soviet forces, and other topics
PDCALC	computes kill probability for a specified target
PKOP	calculates kill probability for two unreliable warheads against hardened targets

ACDA ADP ASSETS

ACDA's ADP assets consist of equipment, software, and personnel. Most, but not all, of these assets are managed by CS, which is located in the VI Bureau.

MANAGEMENT, ORGANIZATION,  
AND PERSONNEL

CS is charged with providing ADP services to the rest of the Agency. It operates ACDA's Wang computer unit, and maintains and operates programs run on the U.S. Railway Association's Digital Equipment Corporation DEC-20 computer. CS is staffed by a Chief (formerly the Deputy Chief of OA) and two computer specialists. The Chief reports to the Assistant Director, VI. However, he also receives direction and guidance from VI's Senior Adviser for Operations Research and performs analyses for other offices.

The Senior Adviser for Operations Research--formerly the Chief of OA--is charged with performing analyses in support of all ACDA organizational units. Informally, he also provides guidance to CS, and has been acting as an unofficial deputy to the Assistant Director, VI.

In addition to the central support provided by CS, some line bureaus operate computer systems independently. For example, the Bureau of Strategic Programs independently operates the ARENA full text retrieval system (see p. 34 for a fuller description of ARENA) and the Bureau of Nuclear and Weapons Control has experimented with a keyword retrieval system that operates on a word processor.

EQUIPMENT ASSETS

ACDA's major ADP hardware assets currently consist of

- a Wang computer unit capable of classified operations (consisting of two Wang 2200-VP-16 central processing units and associated peripheral equipment),
- specialized graphics terminals,
- terminals linked to the USRA DEC computer, and
- communications equipment.

In addition, ACDA has access to a State Department IBM 370 computer, and the USRA DEC computer.

HLCPKI	computes kill probability for a specified target
JA PLOT	graphics utility program
JH BAR	graphics utility program
NIE 79, PROJECT, STATIC	print summary tables of military forces (also used in FOREV)
OA, MAP	plots maps, points, contours, and range arcs
RADIA	computes thermal radiation radius
STATION KEEPER	data base on seismic stations

ADP COSTS

The following table shows actual ADP costs for fiscal year 1982 and estimated costs for fiscal years 1983 and 1984, provided by ACDA. ACDA did not include some cost elements we consider ADP costs: for example, the reimbursable agreement for operating the ARENA system on a Department of State computer (budgeted at \$55,000 in fiscal year 1983), and the new secure enclosure for ACDA's Wang computer (which cost about \$91,000 in fiscal year 1983).

SALT	performs a keyword search of SALT I Treaty text
SALT 2	performs a keyword search of SALT II Treaty text
SCHEDULES	keeps track of milestones for ACDA contracts
SNAP/D	assesses the capability of a seismic network to detect and locate seismic events
SPENT NUCLEAR FUEL	keeps track of spent nuclear fuel for non-proliferation monitoring
VULCAN	converts different measures of vulnerability to damage from nuclear explosions
WMEAT	performs analyses for the annual <u>World Military Expenditures and Arms Transfers</u> report
<u>APPLICATION PROGRAM RUN ON STATE DEPARTMENT'S IBM COMPUTER</u>	
ARENA	performs full text search of negotiation documents
<u>APPLICATION PROGRAMS RUN ON ACDA'S WANG COMPUTER</u>	
ABM	simulates one-on-one interception of an incoming re-entry vehicle
ARMS LOD 1, 2, 3	utility programs for WMEAT
ATCAT	data base on transfer of military equipment
BLAST	computes blast radius
CTB	generates contour maps for seismic detection capabilities
FOREV	small strategic exchange model

DYNEVAL and FORCE-COSTING have been based on personal contacts rather than on formal agreements. As a result, ACDA's access to FORCE-COSTING was recently jeopardized when a key DOD official was transferred to another post, leaving ACDA to deal with his colleagues, who knew nothing of ACDA's access arrangement.

ADP COSTS  
( \$000 )

	<u>FY 1982</u> (actual)	<u>FY 1983</u> (estimate)	<u>FY 1984</u> (estimate)
Personnel			
Salaries	\$ 694	\$ 186	\$ 186
Benefits	44	21	21
Training	2	1	1
Travel	4	2	2
Hardware (including maintenance)	268	16	180
Software and support services	253	-	115
External research	42	-	-
Reimbursable agreements	116	60	50
Office space	70	12	12
Construction	79	-	1
Miscellaneous	<u>4</u>	<u>2</u>	<u>5</u>
TOTAL ADP COSTS	<u>\$1,576</u>	<u>\$ 300</u>	<u>\$ 573</u>

ACCESS TO DOD OPERATIONS  
ANALYSIS RESOURCES

ACDA has some access to DOD's operations analysis resources. According to ACDA's Senior Military Advisor, ACDA has been generally successful in obtaining copies of DOD analytical products it has requested. ACDA has also made arrangements with DOD to benefit from DOD use of two computer models (DYNEVAL and FORCE-COSTING) that ACDA no longer operates.

However, ACDA's access arrangements are limited. DOD officials are unaware of any instances in which ACDA has actually used the computers or models of DOD's two leading operations analysis units for its own studies. DOD does not provide ACDA with certain detailed and classified data bases considered essential by DOD operations analysts, and occasionally sanitizes the reports given to ACDA. Moreover, arrangements to use

- Cancelled contracts for a computer, peripheral equipment and maintenance, support for strategic exchange models, and other ADP resources.
- Turned OA's Rosslyn office space over to the Department of State.

In actions unrelated to OA or ADP support, ACDA also reduced the size of its contracts staff and its Office of Congressional and Public Affairs at the Rosslyn facility.

Six of OA's analysts were given new titles and assigned to line bureaus as follows:

- the Bureau of Strategic Programs received one Foreign Affairs Officer and one Physical Science Officer,
- the Bureau of Nuclear and Weapons Control received one International Economist and one Physical Science Officer, and
- the Bureau of Multilateral Affairs received two Foreign Affairs Officers.

Subsequently one former OA analyst left the Agency and one began a year-long sabbatical. Of the four remaining staff:

- One is primarily responsible for preparing analyses of the economic aspects of arms control issues. This is the same work he did in OA.
- One is developing a computer model which assesses the ability of a network of detection stations to detect and analyze seismic events. This work was begun in OA.
- One divides his time between management support activities and operations analysis.
- One works entirely on matters which do not involve operations analysis.

ACDA no longer operates four large computerized models. The large strategic exchange models cannot be run without additional funding and several months lead time because (1) ACDA no longer has immediate access to a large computer capable of classified operations and (2) it does not have contract support or

SUMMARY OF THE OFFICE OF  
OPERATIONS ANALYSIS ABOLISHMENT AND  
GAO'S ANALYSIS OF ACDA'S CLAIMED SAVINGS

There has been strong congressional interest in ACDA's decision to abolish its Office of Operations Analysis. During hearings on ACDA's authorization for fiscal years 1984 and 1985, the Chairman of the Subcommittee on International Security and Scientific Affairs, House Foreign Affairs Committee, questioned ACDA concerning its reasons for abolishing OA and asked what savings resulted.

The idea of abolishing the Office of Operations Analysis surfaced during fiscal year 1983 budget deliberations with OMB, although ACDA's transition team had previously considered incorporating OA into a line bureau. Before the abolishment took effect, the line bureaus were consulted regarding their analytical and computer support needs. The bureaus' requests to retain specific computer programs were fulfilled, but not all of their organizational recommendations were accepted. For example, the then-Acting Assistant Director of VI recommended retention of a smaller OA staffed with at least five experienced analysts, but this proposal was not adopted.

Principal reasons given for the abolishment were (1) the cost savings involved and (2) perceptions that OA was an inefficient organization which was not responsive to bureaus' needs. Concerning the first point, ACDA told the House Subcommittee on International Security and Scientific Affairs that it saved over \$1.3 million in fiscal year 1983 by "relocating ACDA's Rosslyn facility." We estimate that of this amount, only about \$683,000 in savings can be properly attributed to ACDA's reductions in computer support. Concerning the second point, some opponents of the abolishment believe that charges of inefficiency against OA were politically inspired. We could not evaluate whether OA was an inefficient organization due to the lack of available records to support an objective determination.

ACTIONS TAKEN

At the end of fiscal year 1982, ACDA

--Abolished OA.

--Transferred OA's analysts to line bureaus.

--Cancelled four military detailee positions.



The other key reason advanced for OA's abolishment is that it was unresponsive to the line bureaus' needs and performed too many self-initiated studies. We could not evaluate these assertions because of the lack of adequate records. Because not all requests to OA were in writing, and the available records do not distinguish between self-initiated and requested work, it is not possible to comprehensively determine how much of OA's work was self-initiated and how much was requested.

There is little agreement among current and past bureau officials concerning OA's usefulness to the line bureaus. Some found OA's many studies to have been very useful, particularly during past arms control negotiations. Others, however, stated that OA's work was not useful or that they were receiving better service from analysts now located in their bureaus. There was no preponderance of testimony from ACDA officials on either side of this issue. Two consultants who evaluated OA on behalf of ACDA's management during 1981 and 1982, told us that OA had been producing good, solid--if unimaginative--analysis.

Some opponents of the abolishment believe other factors influenced the decision, including that

- OA's work for the previous administration (for example, its civil defense studies) offended officials in other agencies and private individuals who now hold policymaking positions in the Government,
- many of ACDA's current management have training and experience which lead them to underestimate the value of quantitative analysis, and
- ACDA's current management is not interested in undertaking analysis which is needed to challenge positions taken by the other agencies involved in arms control policymaking.

analysts assigned to maintain the models or update the data base. A management decision was made to shelve two other models. One of these models (DYNEVAL) analyzes the effect of major disruptions on a nation's economy, and the other (FORCE-COSTING) analyzes the budget impact of military force structure changes. (ACDA has made informal arrangements with DOD to obtain results of DOD's use of these models, as noted on p. 24).

ACDA retained a small central ADP and analytical support capability in VI. The former Chief and Deputy Chief of OA, along with two computer specialists, are assigned to provide analytical and computer support to the entire Agency. Their responsibilities, and the assets they control, are discussed in enclosure III.

#### RATIONALE FOR ABOLISHING OA

Proponents of OA's abolishment and the associated reduction in operations analysis and computer support say that the actions were made necessary by budget cuts imposed on ACDA, and that the transfer of analysts to the bureaus should make them more responsive to the Agency's needs. Some opponents of the abolishment believe that the action was at least in part politically motivated, and that ACDA's management underestimated the value of quantitative analysis.

Proponents stated that an estimated 7.9 percent budget reduction OMB imposed on the Agency was a principal reason for abolishing OA.<sup>1</sup> The budget cut could not be absorbed in ACDA's line bureaus, they say, and ACDA's Director instructed his staff to take every possible step to avoid reductions in force. Under these conditions, proponents argue, abolishing OA and substantially reducing the size of ACDA's Rosslyn facility were the only means left to achieve the substantial budget savings required. Some officials supported OA's abolishment on the basis that it prevented budget reductions in the line bureaus.

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<sup>1</sup>Initially, OMB reduced ACDA's budget by 7.9 percent. (Because a subsequent supplemental request for \$564,000 was approved by the Congress, however, ACDA's fiscal year 1983 budget authority will actually be 4.5 percent less than in fiscal year 1982.) For comparison, the four largest agencies with international responsibilities (all of which are considerably larger than ACDA) received operating budget increases from OMB ranging from 1.5 to 42.1 percent.

ACDA'S CLAIMED SAVINGS  
AND GAO'S ANALYSIS 1/

<u>DESCRIPTION</u>	<u>ACDA'S CLAIMED SAVINGS</u>	<u>GAO ANALYSIS</u>		<u>REVISED SAVINGS</u>
		<u>SAVINGS NOT RELATED TO OA OR COMPUTER SUPPORT</u>	<u>OTHER ADJUSTMENTS</u>	
<u>Equipment</u>				
Lease to purchase plan and maintenance for Digital Equipment corporation computer	\$281,000			\$281,000
Miscellaneous equipment rental and maintenance agreements	20,000			20,000
<u>Timesharing</u>				
Timesharing for large strategic exchange models	90,000			90,000
<u>Software</u>				
Maintenance of large strategic exchange models and miscellaneous software maintenance	61,000			61,000
<u>Personnel</u>				
Non-OA positions	106,232	\$106,232	2/	
OA (7 2/3 ACDA positions)	423,281			\$423,281
(4 detailees)	201,188			201,188
<u>Office Space Rental</u>				
Reduction in Rosslyn office space	183,330	27,407	4/	160,923

COST REDUCTIONS WILL  
BE LESS THAN STATED

ACDA may achieve fiscal year 1983 cost reductions of about \$683,000 through cutbacks in computer support; this is about half of ACDA's claimed savings from the Rosslyn office relocation. When ACDA chose to decentralize its operations analysis staff (and assign some of them different duties) it also took actions to achieve budget savings. However, not all of the budget reduction actions were related to operations analysis or computer support. Furthermore, we question some aspects of ACDA's stated savings, principally because:

--The Agency has no convincing rationale for counting the salaries of OA personnel transferred to other ACDA organizations as savings.

--ACDA did not recognize some costs which offset stated savings.

The following table details ACDA's claimed savings and the results of our analysis. ACDA did not agree with all aspects of our analysis. ACDA's comments and our response are included as appendix VI.

APPENDIX IV

- 1/Savings shown are estimates for fiscal year 1983. Some savings will recur in future years, but the offsetting costs for moving ACDA's Wang computer and erecting a new secure enclosure are one-time costs.
- 2/This amount represents two positions in the Contract Office and two positions in the Office of Congressional and Public Affairs.
- 3/The stated savings of \$423,281 is the total salaries and benefits for OA personnel transferred to ACDA's line bureaus. ACDA retained all of OA's staff on its payroll and justified counting these personnel costs as savings because, "If these transfers had not occurred the line bureaus would either have been under staffed or additional personnel would have been hired at additional personnel expense." We question the entire stated savings because ACDA could not provide any documentation showing that the line bureaus actually planned additional outside hires. There were no outstanding vacancy announcements at the time of the reorganization.
- 4/OA occupied about 88 percent of the office space turned over to the Department of State. This \$22,407 represents the cost of office space occupied by the ACDA library.
- 5/This contract, funded at \$10,000 in fiscal year 1982 and \$40,000 in fiscal year 1983, appears to have been erroneously included in ACDA's stated savings.
- 6/According to ACDA's Budget and Accounting Officer, the 4.3 percent escalation factor is an estimate of inflation expected during fiscal year 1983. We note that this \$20,000 stated savings does not reflect actual cost escalation expected, or contractually agreed to, for the specific costs to which the escalation factor was applied.
- 7/We estimate the fiscal year 1983 costs of U.S. Railway Association timesharing services at \$60,000: \$12,000 more than ACDA's estimate. Our estimate is based on the assumption that ACDA's level of use of timesharing services through June 1983 will continue throughout fiscal year 1983. The Chief of the Computer Services Group believes that \$60,000 is a conservative estimate of timesharing costs.
- 8/ACDA did not recognize \$90,939 in costs for moving the Wang computer and erecting a new secure enclosure, which offset claimed savings.
- 9/ACDA's statement of savings contained a mathematical error and stated the total savings claimed as \$1,348,912. The correct total savings claimed is \$1,348,031.

APPENDIX IV

DESCRIPTION	ACDA'S CLAIMED SAVINGS	GAO ANALYSIS		
		SAVINGS NOT RELATED TO OA OR COMPUTER SUPPORT	OTHER ADJUSTMENTS	REVISED SAVINGS
<u>Other</u>				
Contract for computer reading of records	10,000		10,000 <u>5/</u>	
4.3% escalation factor applied to all costs except personnel and office space	<u>20,000</u>			<u>20,000</u> <u>6/</u>
Total savings	\$1,396,031	\$128,639	\$433,281	\$834,111
<u>Offsetting costs</u>				
Agreement with the U.S. Railway Association for time-sharing services	(48,000)		12,000 <u>7/</u>	(60,000)
One-time costs for moving Wang computer and erecting new secure enclosure			90,939 <u>8/</u>	(90,939)
NET SAVINGS	<u>\$1,348,031</u> <u>9/</u>	<u>\$128,639</u>	<u>\$536,220</u>	<u>\$683,172</u>

Other ACDA bureaus and offices appear to place relatively less emphasis than SP and NWC on retrieval systems. For example, the Bureau of Multilateral Affairs (MA) informed us that it had concluded that use of a retrieval system like ARENA would not be cost-effective in supporting MA's work on the Mutual and Balanced Force Reduction negotiations. (In commenting on this report, ACDA informed us that MA has requested the use of AIRS.) The Office of Administration's contract officer uses two programs to locate data regarding ACDA's external research contracts, but otherwise the Office appears to make limited use of data retrieval programs. VI emphasizes the use of ADP for analysis and graphics, although it does use ARENA to some degree.

### OPERATIONS ANALYSIS

We found that the bureaus and the Office of the Director are still employing operations analysis to a limited extent. Each utilizes ACDA's analytical resources differently and to a varying degree, according to high-level officials.

The Acting Assistant Director for SP informed us that the Bureau now relies on its own analytical resources and he believes that SP has all the analytical support it needs. SP has not turned to CS for assistance since OA's abolishment. He informed us that most of the problems SP addresses do not require a great deal of computer support, but instead demand good human analytical capabilities. SP, which had one former OA analyst prior to October 1982, obtained two more following OA's abolishment. Of the three, two work at least to some degree on analytical matters while a third continued the data retrieval work that he began in OA. In lieu of the large strategic exchange models that are no longer maintained, SP now depends on a smaller and cheaper exchange model (FOREV) which operated on ACDA's Wang computer. SP officials stated that they had not required the use of the large models for several months and rated their needs for strategic exchange models below that of the data retrieval systems.

During our review MA officials told us that the Bureau's current needs for operations analysis were minimal and that they could envision no future cost-effective applications. In commenting on this report, ACDA stated that Bureau officials believe operations analysis support for their Bureau varies with changing conditions and indicated that MA now envisions future needs for operations analysis. One of the two analysts MA received when OA was abolished is continuing to work on a computer model (SNAP/D) for analysis of seismic events in connection with underground nuclear test ban verification. During our review, MA officials indicated that SNAP/D was still

CURRENT ACDA USE OF ADP FOR  
DATA RETRIEVAL AND OPERATIONS ANALYSIS

This description of current ACDA use of ADP for data retrieval and operations analysis is based primarily on interviews with various ACDA officials.

DATA RETRIEVAL

ACDA is employing its ADP resources to meet data retrieval needs, which ACDA officials in two key bureaus and in the Office of the Director identified as their most important requirement for ADP support. One highly-placed ACDA official noted that retrieval of negotiating history data may be "the only serious use of computers in ACDA today."

The Bureau of Strategic Programs (SP) utilizes two principal data retrieval systems--AIRS and ARENA. AIRS operates on the USRA DEC and provides an agencywide document search capability by key word. ARENA, a relatively new system, supports current arms control negotiations through full-text search and retrieval of material in arms control archives. ARENA allows SP to review past negotiation records for references to topics of interest without using previously programmed key words. SP officials use ARENA and AIRS frequently, and SP and other ACDA officials believe that both programs are very important to their work. Use of ARENA by ACDA and the Department of State may represent a unique application of ADP for arms control: neither the Office of the Secretary of Defense or the Joint Chiefs of Staff apparently have such a full-text retrieval system.

The Bureau of Nuclear and Weapons Control (NWC) relies on several data retrieval programs. NWC's Arms Transfer Division uses ARATE to identify and locate records of past arms transfer cases that are relevant to the Division's consideration of pending cases. NWC's Defense Programs Analysis Division prepares ACDA's annual World Military Expenditures and Arms Transfers (WMEAT) publication by retrieving large amounts of data stored in a WMEAT program. The International Nuclear Affairs Division of NWC uses data stored in a spent fuel program in addressing foreign government positions on spent nuclear reactor fuel. All three programs, operated on the USRA DEC, are highly valued by their users. In particular, Arms Transfer Division officials consider ARATE to be an invaluable and integral part of their effort.



**UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY**

Washington, D.C. 20451

September 12, 1983

The Honorable Charles A. Bowsher  
Comptroller General  
of the United States  
Washington, D. C. 20548

Attention: Mr. Frank C. Conahan

Dear Mr. Bowsher:

The Arms Control and Disarmament Agency (ACDA) has reviewed the United States General Accounting Office draft report "Need to Improve Management of ACDA's Automatic Data Processing and Operations Analysis Functions (GAO/NSIAD-83- )", as forwarded with your August 26 letter.

Parts of the report will be useful as we continue to review ACDA's operating practices and procedures. Certain sections, however, require clarification or correction. Our comments in this regard are enclosed. I would also like to point out that four reviews related to areas covered by the report will be undertaken. These will cover ADP planning procedures, computer security, operations analysis needs of the Agency, and the Paperwork Reduction Act as it applies to ACDA.

Sincerely,

A handwritten signature in cursive script that reads "Kenneth L. Adelman".

Kenneth L. Adelman

Enclosure

in development and not in routine use. Although some in ACDA believe SNAP/D will benefit ACDA, MA officials indicated that they saw relatively little use for SNAP/D in MA's current or future operations--particularly given the absence of negotiations on a comprehensive nuclear test ban treaty. However, they had no other analytical work for the analyst to perform. In its comments on this report, ACDA stated that the Bureau is currently using the SNAP/D model. The other ex-OA staff member is now working entirely on matters that do not include operations analysis. MA has not utilized CS for assistance.

NWC officials informed us that some degree of analytical work regarding weapons systems, arms sales, and non-proliferation is conducted within the Bureau. Of the OA staff members NWC acquired in 1982, one has left ACDA after having overseen the phasing-out of an ACDA nuclear safeguards project, and the other is continuing his previous work. Although NWC previously utilized OA, we were told that it has not turned to CS for assistance since OA's demise.

The Assistant Director for VI informed us that the Bureau often turns for help to CS or VI's Senior Adviser for Operations Research. The primary use of such assistance is apparently for difficult statistical analysis, although CS has also been employed for graphics work.

ACDA's Office of the Director apparently no longer uses ACDA's operations analysis capabilities as extensively as it once did. According to one official in the Office of the Director, VI's Senior Adviser on Operations Research has been asked only once since OA's abolishment to assess data for the Office of the Director. CS has, however, performed some graphics work for the Director.

### Compliance with the Paperwork Reduction Act

ACDA management had previously discussed with OMB the Agency's compliance with the Paperwork Reduction Act of 1980, and OMB indicated that the ACDA's actions under this Act are appropriate given its size and data sources. However, ACDA will again review the requirements of the Act with OMB and the ACDA's General Counsel to see if any corrective action would be in order.

### ADP Management Systems

During 1981-1982 ACDA was in the process of adjusting computer analytical support capabilities to bring them in line with the Agency's financial and personnel resources and to ensure that available analytical support was of the type required for the activities of the Agency's line bureaus. At that time, computer capacity was in excess of the Agency's requirements with the principal equipment (DEC 2060) operating at considerably less than full capacity and incapable of handling any classified material. Prior to the reorganization all line bureaus were requested to identify the computer assistance they needed to accomplish their mission, and all such requests for support were approved.

The Agency has in the past considered requests for computer and analytical support by line bureaus or other organizational units through the budget process. Both top and mid-level managers of the Agency are involved in support justifications for budget requests. ACDA's Budget and Accounting Officer has been incorrectly quoted as saying "Data processing users do not participate in ADP planning through the budget process." (SEE GAO NOTE 4.)

After ACDA terminated the lease on the DEC 2060, a study was initiated to determine how new computer technology could be used to meet ACDA's present needs. This study has been done with consideration of the support requirements of the line bureaus, and ACDA is in the final selection process for additional ADP equipment. ACDA's Director is initiating a review of the Agency's ADP planning procedures including consideration of a more formal ADP user survey to assist in ADP decision making.

### Computer Security

Presently ACDA is obtaining computer support from two principal sources: (1) Computer Services Agreement with the U.S. Railway Association (USRA), and (2) support provided by the Agency's Computer Group which operates and maintains the ACDA-owned WANG facility. USRA has assured ACDA that it has taken all reasonable precautions to ensure the security of service provided

Arms Control and Disarmament Agency

Comments on Draft Report "Need to Improve Management of  
ACDA's Automatic Data Processing and Operations Analysis  
Functions (GAO/NSIAD-83- )"

ACDA Estimate of Savings Resulting  
from Closing of the Rosslyn Facility

The GAO draft report states that \$684,000 savings were related to the reorganization and relocation actions that effected the former Office of Operations Analysis (OA) and computer support and implies that ACDA overstated these savings. ACDA's estimate of \$1.3 million savings referred to in the draft report included total Rosslyn savings identified for contract, library and computer changes.

ACDA does not agree with the conclusion that no salary savings resulted from the reassignment of OA personnel, because six of them were reassigned to existing vacancies in the line bureaus for which they were qualified. If these transfers had not occurred the line bureaus would have needed to recruit more staff at added salary expense for the Agency. In this respect, the abolishment of OA and the elimination of a secretarial position created a savings of \$406,206. (SEE GAO NOTE 1.)

ACDA also does not agree that recurring savings that are realized year after year should be reduced by \$90,939 for a one-time moving and construction cost for the WANG computer. This is not a generally accepted financial analysis technique and understates actual annual savings. The one time charge should be amortized over the years of the recurring savings. (SEE GAO NOTE 2.)

Regardless of the personnel savings for the six OA analysts, recurring savings resulting from closing of portions of the Rosslyn facility are as follows:

<u>Description</u>	<u>Recurring \$ Savings</u>
Computer Support	\$784,740
Library	69,248 (SEE GAO NOTE 3.)
Contract Office	<u>58,984</u>
Total Rosslyn Changes	\$912,972

GAO NOTES

1. As our report states (see pp. 26 and 31-33), ACDA told the Subcommittee on International Security and Scientific Affairs, House Foreign Affairs Committee, that it saved \$423,281 by retaining OA personnel and transferring them to the line bureaus. ACDA could not provide us with any documentation to show that the bureaus had planned outside hires, or that there were any outstanding vacancy announcements when the transfers occurred. Moreover, information we obtained at ACDA indicates that the Agency had full time permanent personnel in excess of its fiscal year 1983 personnel ceiling at the time of the abolishment. Therefore, we can only conclude that the bureaus did not forego actual outside hires because of the OA transfers and that no ACDA net budget savings resulted from the transfers.
2. Agency officials told us that a fiscal year 1983 budget reduction was a principal reason for abolishing OA. Our analysis was therefore intended to determine how ACDA's actions helped it reduce fiscal year 1983 outlays. Because the expenditures for a new secure enclosure occurred in fiscal year 1983, our treatment of the \$90,939 expense is appropriate. The report states clearly that this expense is a one-time cost, and that some savings will recur in future years.
3. For our analysis disputing ACDA's claimed savings related to the library, see our reports, "Information on ACDA's Personnel and Budget Levels and Related Matters," (GAO/NSIAD-83-61 or GAO/NSIAD-83-63, September 13, 1983).
4. ACDA has taken the first part of a sentence from our draft report and presented it as a complete quotation. The report actually says, "According to ACDA's Budget and Accounting Officer, data processing users do not participate in ADP planning through the budget process, although they may informally state their needs to CS." Our sentence accurately characterizes the information provided to us during our review. More importantly, we believe that ACDA's budget process is not a satisfactory means of ADP planning.

ACDA. The Agency's owned WANG computer is installed in a secure facility which meets existing classified data security requirements. While the Agency is not aware of any computer security problems, the Director will initiate a review to ensure that the intent of OMB Circular A-71 is being followed and, if necessary, to take corrective action.

#### Review of Operations Analysis' Capabilities

Operations Analysis techniques are a support function to assist the line bureaus in meeting their objectives. These and other support requirements vary with changing external and internal conditions. Line bureaus are authorized to request the type of support they require to accomplish their mission. ACDA's Director will review with the Agency's top management the need for instituting a more formal assessment of these requirements to determine if management system changes are needed to help the Agency carry out its work effectively.

#### Enclosure IV - Summary of Operations Analysis' Abolishment and GAO's Claimed Savings

Enclosure IV states some ACDA officials believe that the abolishment of the Office of Operations Analysis was at least in part politically motivated. There is no basis for this claim. No Agency official took any action related to the abolishment of the Office of Operations Analysis during the current Administration which was based on political considerations. (SEE GAO NOTE 5.)

#### Enclosure V - Current ACDA Use of ADP

Enclosure V improperly states the views of ACDA's Multilateral Affairs Bureau (MA) concerning Operations Analysis and computer support. The MA Bureau senior officials believe that Operations Analysis support for their bureau varies with changing conditions and the statement that "they envision no future needs" is incorrect. The Bureau is currently using the SNAP/D model and has requested the use of AIRS. (SEE GAO NOTE 6.)



APPENDIX VI

5. Our report accurately presents the views of officials who supported OA's abolishment and of those who opposed this action. Because of the subjective basis for many of the opinions expressed, we did not endorse either view.

6. Our draft report accurately reflected what we were told during our review by the MA officials. We have updated the report to include the new information provided in ACDA's comments.

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