

ENVIRONMENTAL PROTECTION AGENCY

Information Resources Management Review Program



FY 1990 Report

NOVEMBER 1990

U.S. Environmental Protection Agency

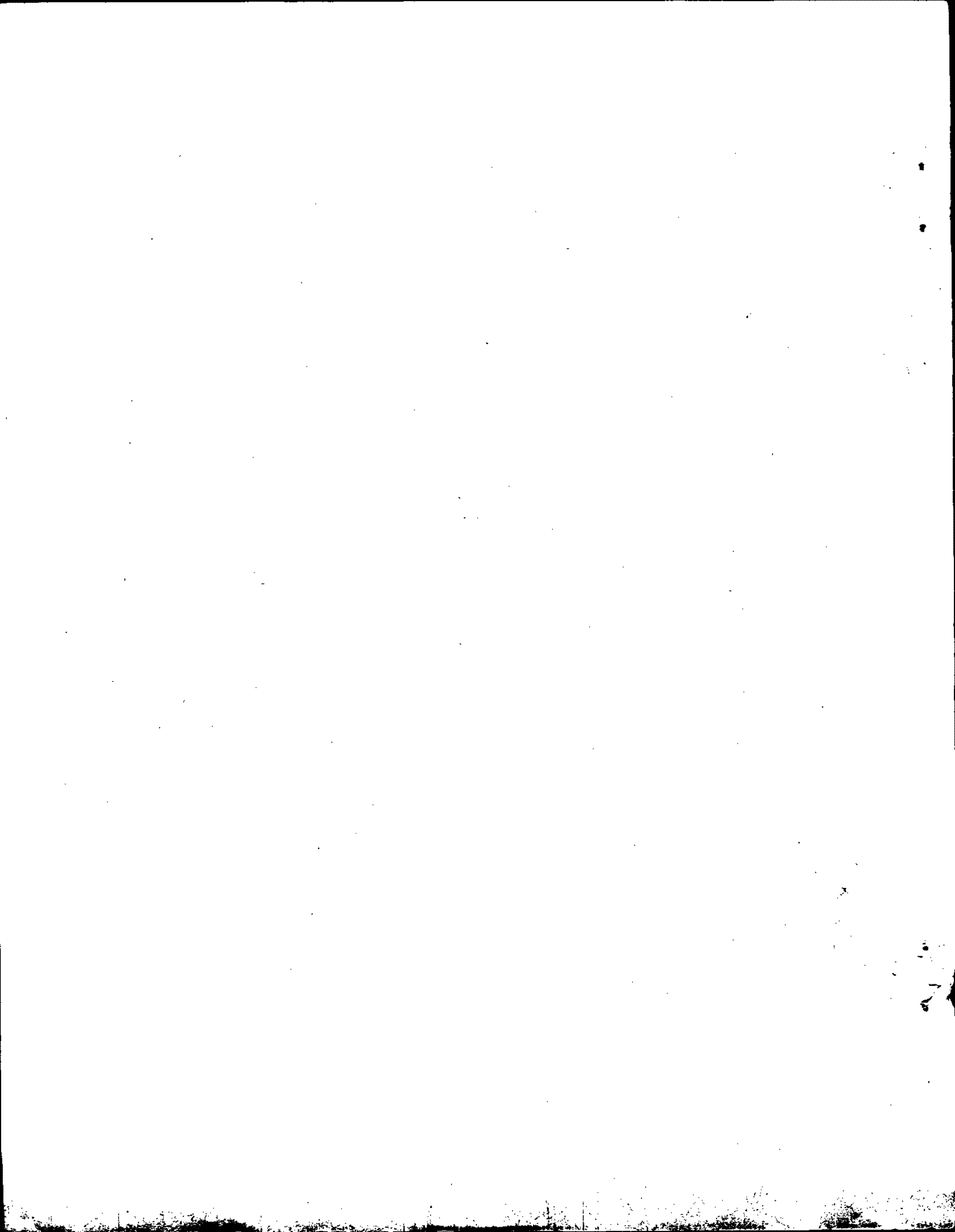
Assistant Administrator, Administration and Resources Management

Office of Information Resources Management

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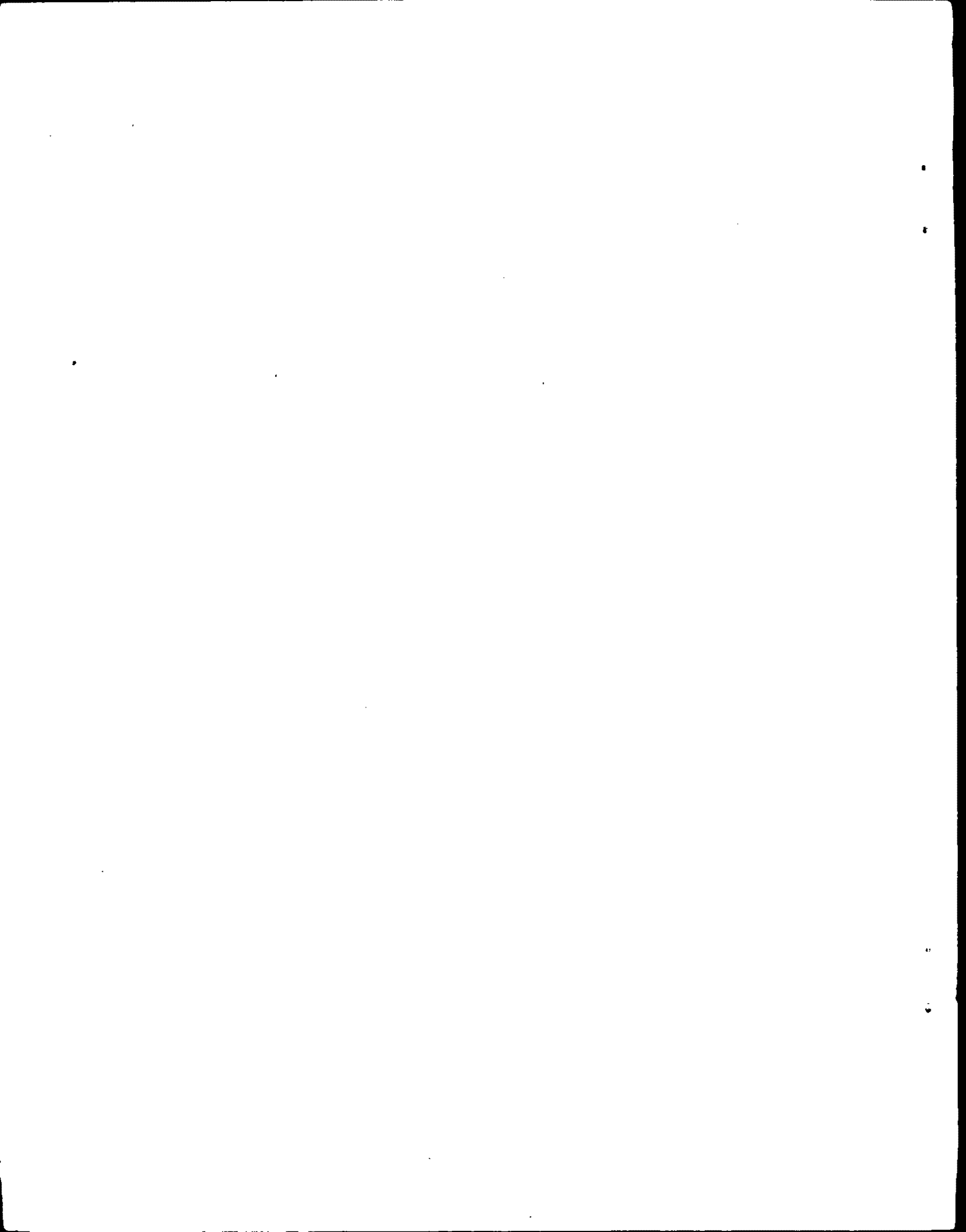
Federal IRM Review Program

FY 1990 Report

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Preface

Through the Federal IRM (Information Resources Management) Review Program, EPA assesses its ability to gather timely and accurate data and to evaluate the tools used to compile it across programs and media into information which supports environmental decision making.

The Federal IRM Review Program was initiated in FY 1986 to carry out the provisions of the Paperwork Reduction Act of 1980. The Office of Management and Budget (OMB) and the General Services Administration (GSA) provide guidance and oversight in implementing the program, with GSA providing overall management.

The Federal IRM Review Program seeks to determine:

- If each agency is carrying out its information management activities in an efficient, effective and economical manner in support of program missions and objectives;
- How well each agency is complying with established IRM policies, procedures, principles, standards and guidelines; and
- If each agency is complying with Federal agency responsibilities of Section 3506 of the Paperwork Reduction Act (PRA).

This document is the U.S. Environmental Protection Agency's fifth annual submittal under the Federal IRM Review Program. It contains a report on program results for FY 1990 and summarizes the Agency's review plan for FY 1991.

The structure of this document is as follows:

- An EXECUTIVE SUMMARY follows the Table of Contents. It provides a summary of the accomplishments of the 1990 fiscal year and discusses planned reviews and changes in the IRM program for next year.
- Chapter 1— INTRODUCTION, provides background information on the Agency's mission and IRM organization, policies and procedures. It also describes how the IRM Review Program is implemented within the Agency.
- Chapter 2— FY 1990 PRIORITIES AND INITIATIVES, describes government-wide and Agency-specific goals and

PREFACE

IRM initiatives which led to the reviews presented in this report.

- Chapter 3— FY 1990 IRM REVIEWS, summarizes the reviews conducted during FY 1990 and the benefits received from those reviews. As mandated by GSA, this chapter also evaluates the Agency's compliance with the PRA §3506 (see above).
- Chapter 4— FY 1991 IRM REVIEWS, summarizes the initiatives and reviews planned for FY 1991 and describes the reporting changes required by GSA.

Four appendices complete the document. Appendix A contains the synopses of reviews conducted during FY 1990. It also contains the completed synopsis data sheets for these same reviews, as required by GSA. Appendix B contains brief descriptions of the IRM reviews planned for FY 1991. Appendix C contains the formats for the initial and annual reports on major information systems. The last appendix contains, as required by GSA, the initial report on the Agency's SCRIPS (Superfund Cost Recovery Image Processing System).

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Executive Summary

Through the Federal IRM (Information Resources Management) Review Program, EPA assesses its ability to gather timely and accurate data and to integrate it across programs and media into information which supports environmental decision making.

The Federal IRM Review Program was initiated in FY 1986 to carry out the provisions of the Paperwork Reduction Act of 1980. The Office of Management and Budget (OMB) and the General Services Administration (GSA) provide guidance and oversight in implementing the program, with GSA providing overall management.

IRM reviews may encompass any or all activities of planning, budgeting, organizing, directing, training, and controlling associated with the creation, collection, processing, transmission, dissemination, use, storage and disposition of information by Federal agencies. IRM encompasses both information itself and resources, such as personnel, equipment, funds, and technology.

Each year for the program, GSA identifies priority areas that Agencies should address that could lead to better management of resources throughout the government. The five priority areas for FY 1990 were: telecommunications, information management, ADP management, ADP security, and major information systems.

The EPA has set its own Agency priorities which are specific to the Agency's mission of protecting human health and the environment. EPA's mission-based priorities for FY 1990 were: enforcement, pollution prevention, risk reduction, ecosystem protection, and leadership in the international arena.

In FY 1990, EPA conducted its fifth successful IRM review program. A total of eleven IRM reviews were conducted to address IRM initiatives such as program systems modernization and improved records management. The eleven reviews were:

- Physical Security Reviews;
- Integrated Contracts Management System Study;
- Review of Records and Forms Management Programs;
- Review of Public Information Access Services;
- Telecommunications Evaluation;

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- Review of Data Management Practices for Automated Laboratories;
- Evaluation of Electronic Forms;
- Office of Water Data Sharing and System Compatibility Study;
- Toxic Release Inventory Productivity Review;
- Superfund Document Management Review; and
- Electronic Reporting Study.

The reviews covered program systems, administrative systems, public information mechanisms, and the technology on which they are based. Several reviews took the opportunity to go beyond the basic analysis of the present situation and investigate technical and work-related trends.

Some of the findings and recommendations resulting from these studies include the following. The Office of Water study found that current modernization initiatives afford them the opportunity to integrate many program data systems. The Toxic Release Inventory review found that the system accuracy was extremely high, but recommended that the accuracy be balanced against the costs of achieving it. A review of automated laboratories determined that a guide should be developed as an authoritative guide on data management.

Beginning in this year, GSA is paying increased attention to the government's major information systems due to the enormous investment they represent. In its instructions for the Federal IRM Review Program, GSA has mandated that, for all major information systems, agencies will be required to track their development efforts against a "baseline" cost and schedule. GSA is requiring EPA to report in such a manner for the SCRIPS (Superfund Cost Recovery Image Processing System, formerly known as the Superfund Transactions Automated Retrieval System (STARS)) development effort. The initial report is contained in Appendix D. GSA requires updates to this baseline report annually, and IRM reviews must then be conducted, at a minimum, every three years.

GSA has set seven government-wide priorities for the FY 1991 IRM review program, many of which are carried over from previous years. The updated priorities are: major information systems, software modernization, security/privacy, information management, service to the citizen, telecommunications, and ADP management. EPA will continue to emphasize the Agency-specific priorities

FY 1990 IRM REVIEW PROGRAM REPORT

initially chosen in FY 1990. EPA will also emphasize the goals documented in its *IRM Strategic Plan (1991-1995)*. These strategic goals will be the focus of IRM initiatives for the next four years:

- (1) Establish data integration tools and activities;
- (2) Create and manage information systems supporting the environmental community;
- (3) Establish a program to promote information sharing;
- (4) Renew EPA's technology base to provide increased functionality and/or to reduce costs;
- (5) Manage a data administration program to ensure the Agency's ability to use its data fully;
- (6) Enhance productivity through the educated use of technology;
- (7) Improve planning and communications to ensure effective deployment of information and technology; and
- (8) Provide quality service with proactive leadership as custodians of EPA information and systems.

Nine reviews are planned for FY 1991 — several are outgrowths of 1990 reviews. Program systems will be reviewed, standards analyzed, information collection and dissemination mechanisms evaluated, and technology issues investigated. Specifically, the reviews planned for FY 1991 are:

- Information Collection Review— Improvements to the Hazardous Waste Manifest System;
- State/EPA Data Management Review;
- Review of Superfund Document Management Initiatives;
- Review of the Integrated Administrative System Concept;
- Review of Modernization of FINDS;
- Review Public Access Program Needs;
- Review of Strategic Architectural Issues;
- Modernization of STORET; and

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- Locational Accuracy Task Force Review.

The Federal IRM Review Program has been beneficial to the Agency in instigating a closer scrutiny of how its information resources are managed. The program also necessitates a more consistent and all-inclusive nature to the reviews themselves. As a result of these reviews, the Agency is aware of the strengths and weaknesses of current IRM operations and has already begun to take corrective actions.

Chapter 1: Introduction

This chapter establishes the context for the EPA IRM review program by providing information on the:

- Agency background and mission;
- IRM organization;
- IRM policies and procedures;
- IRM strategic planning process; and
- IRM review program.

The results of the Agency's FY 1990 reviews can be more effectively evaluated within this context.

Agency Background

Established as an independent agency in the Executive Branch in December 1970, the U.S. Environmental Protection Agency (EPA) is responsible for executing the Federal laws protecting the environment. The Agency now administers nine comprehensive environmental protection laws, such as the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (or "Superfund").

The EPA was created to permit coordinated and effective governmental action on behalf of the environment. The EPA endeavors to systematically reduce and control pollution through the appropriate integration of a variety of research, monitoring, standard setting, and enforcement activities. The EPA also coordinates and supports research and pollution prevention activities by State and local governments, private and public groups, individuals, and educational institutions. In total, the EPA is designed to serve as the public's advocate for a livable environment.

A simplified version of the EPA organization is presented in Figure 1. The Agency is directed by an Administrator and a Deputy Administrator. The Agency's executive staff includes nine Assistant Administrators who manage specific environmental programs or direct other Agency functions, as well as Associate Administrators and the Agency's General Counsel and its Inspector General.

1: INTRODUCTION

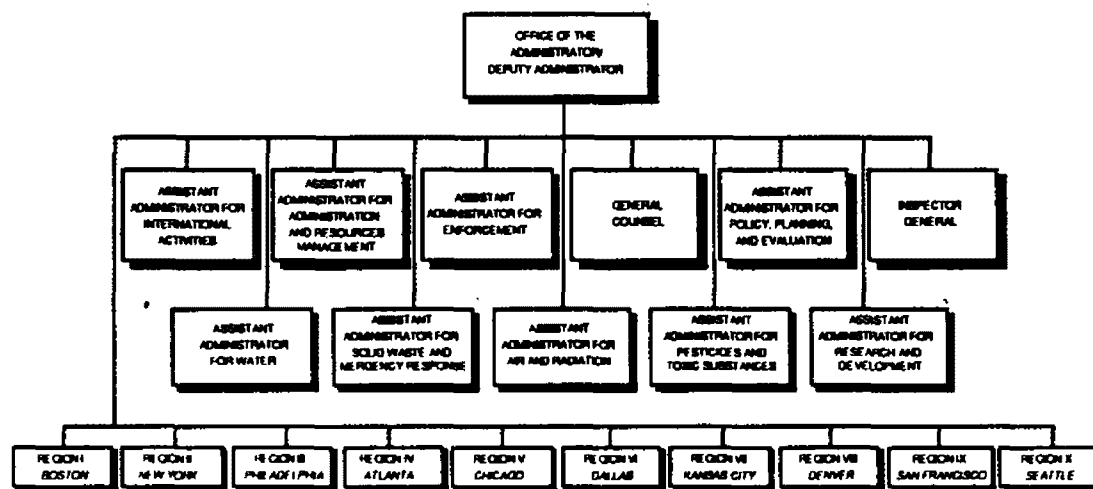


Figure 1. THE EPA ORGANIZATION

Ten Regional offices across the country represent the Agency's commitment to strong local programs for pollution abatement and enforcement. The Regional Administrators cooperate closely with State and local governments to make sure that Regional needs are considered and that Federal environmental laws are properly implemented. They are also responsible for accomplishing within their Regions the national program objectives established by the Agency.

IRM Organization

The primary responsibility for overall management of the Agency's information resources is shared by two offices: (1) the Office of Policy, Planning and Evaluation (OPPE); and (2) the Office of Administration and Resources Management (OARM). Within OARM, IRM responsibilities are shared between the Office of Information Resources Management (OIRM) and the National Data Processing Division (NDPD). Because information resources are vital to the success of the EPA, the Agency has created two institutional frameworks for IRM — the IRM Steering Committee and a cadre of Senior IRM Officials (SIRMOs). These five IRM organizational elements are illustrated in Figure 2 and described in the sections which follow.

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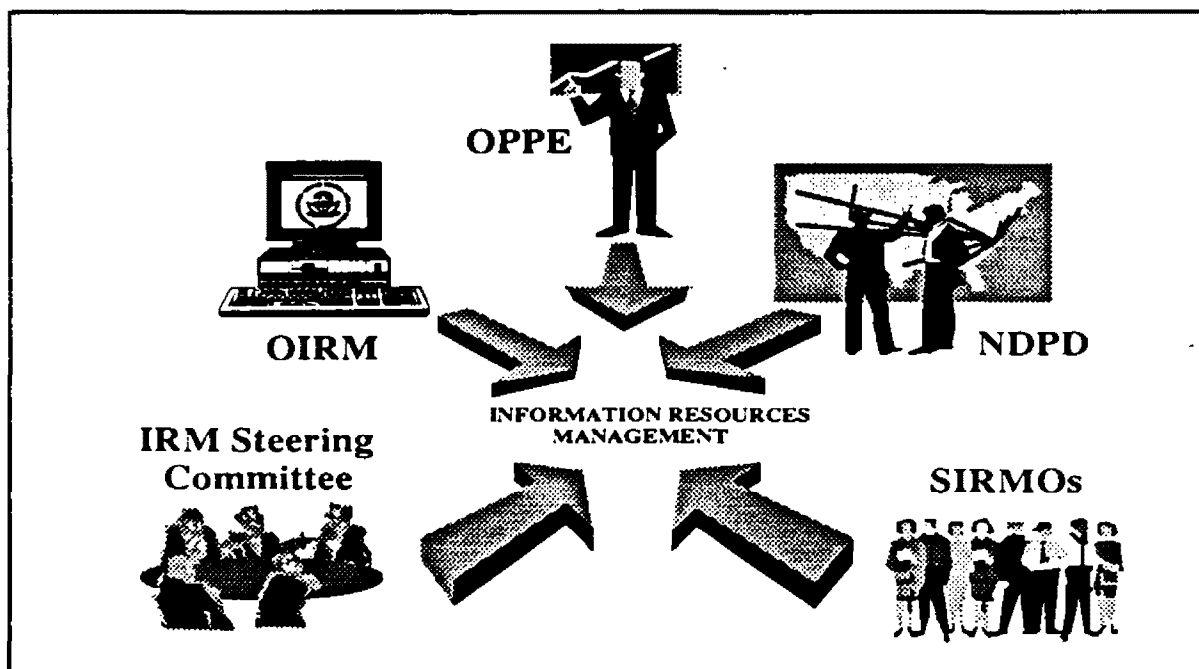


Figure 2. EPA'S IRM ORGANIZATION

OPPE

The Assistant Administrator for Policy, Planning, and Evaluation (OPPE) is the senior official responsible for directing and overseeing the Agency's activities administered under the Paperwork Reduction Act of 1980. While the Assistant Administrator has delegated much of his authority under the Act, he has retained the authority for managing information resources in regulatory situations, reviewing all Agency rules and regulations and other data collection instruments to ensure that the Agency does not impose an unnecessary paperwork burden on the public.

OIRM

The Director of the Office of Information Resources Management (OIRM) has primary functional responsibility for IRM policy development and overall management of the Agency's IRM program. He chairs the IRM Steering Committee and is responsible for the planning, development and operation of information systems and services in support of the Agency's administrative, programmatic, and research functions. He also administers Agency programs for:

1: INTRODUCTION

- IRM strategic planning;
- management of IRM support contracts;
- library systems and services;
- records and forms management;
- information security/privacy;
- data administration;
- State/EPA Data Management;
- international data sharing; and
- the Systems Development Center.

The Director of OIRM also handles approval of software development initiatives, waivers for Federal Information Processing Standards, and microcomputer requisitions.

NDPD

The National Data Processing Division (NDPD), through delegation of responsibilities from the Director of OIRM, is responsible for the definition, acquisition and implementation of computing and telecommunications technology for the Agency. More specifically, the functional responsibilities of NDPD include:

- Management of information processing resources, including telecommunications in EPA;
- Operation and maintenance of all general purpose computers and Local Area Networks in Headquarters and RTP; and
- Development of architectural strategies and procurement of advanced systems, support equipment and processing technology to meet Agency-wide requirements.

IRM Steering Committee

In light of the importance of information resources to the EPA, it was imperative that senior line management become better informed about and more actively involved in the development and use of those resources. To this end, the IRM Steering Committee was established in September 1985. The IRM Steering Committee is chaired by the Director of OIRM and has members appointed by the Deputy Administrator representing EPA national, international and Regional programs, the EPA research community, and the States.

The committee is responsible for advising the Agency's Deputy Administrator on matters of IRM policy and improvements in the responsiveness and efficiency of EPA's IRM programs and operations by:

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- Promoting effective communications and exchange on information management policy, standards, and technology issues among senior EPA and State environmental officials;
- Providing a forum for prioritizing and disseminating information regarding IRM issues and concerns of mutual interest to Federal and State agencies;
- Promoting the development of practices and procedures that support improvements in quality and sharing of environmental data across agency lines;
- Assisting in the formulation of EPA's strategic information resources management planning and policy agenda; and
- Serving as Board of Directors for EPA's System Development Center. In this capacity, the Committee provides advice and guidance on the selection of EPA Systems Modernization Fund project proposals.

Senior IRM Officials

Senior IRM Officials (SIRMOs) are generally responsible for directing and managing office-wide information resources planning, and for ensuring that the information systems and information technology acquisitions within their organizations comply with Federal and EPA policies and regulations. There are twenty-two SIRMOs within the Agency — one for each environmental program and major administrative function, one for the Office of International Activities, and one for each of the ten Regions.

IRM Policies and Procedures

ORIM in partnership with NDPD has established general operating principles for Agency information resources management and has established core IRM policies in the *EPA IRM Policy Manual*, issued in 1987 and revised in 1988 and 1990. Comprehensive in scope, the manual consists of thirteen distinct statements of IRM policy, a glossary of IRM terms, and an appendix of the primary IRM laws and regulations. The thirteen individual policy statements may be grouped into the following three broad policy categories:

1: INTRODUCTION

- institutional policies such as State/EPA Data Management;
- information systems and technology management policies such as data standards; and
- information management policies such as information security.

Operating principles governing the IRM review program are contained in the policy statement on IRM management controls. Together, these policy statements provide the overall framework for implementing EPA information resources management and the review program.

Policy development at EPA is a dynamic process. In order to provide continued coherent direction to the Agency's IRM program, additional guidance documents are required. During FY 1988, OIRM built upon the basic policy framework established in the original *EPA IRM Policy Manual* by issuing guidance in the areas of local area networks, geographic information systems, and system design and development. During FY 1989, OIRM issued guidance in system operations and maintenance and drafted a comprehensive set of procedures governing information security. This procedural guidance on information security was issued during FY 1990. It included the *EPA Information Security Manual* which addresses requirements for all types of information systems, as well as an *Information Security Manual* specifically dealing with personal computers. FY 1990 also saw the issuance of another life-cycle management document entitled *EPA ADP Applications Guidance on Hardware and Software Selection* and promulgation of an Agency-wide policy on locational (spatial) data. The Agency also drafted a policy addressing the acquisition and use of image processing systems in EPA and a guidance document to assist managers in examining the feasibility of this technology.

IRM Strategic Planning

EPA's IRM planning process is built on a mission-based foundation. More than an OMB A-130 requirement, mission-based planning is one of the key tools that the Agency employs to achieve its goal of further decentralizing program authority. EPA's own policy on mission-based planning establishes the principles of planning for the acquisition and management of information and information technology such that it is strategic, linked to program

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missions, coordinated with the budget process, and reflective of sound information management practices.

Within EPA, OIRM and NDPD have primary roles in delivering IRM expertise and services to the Agency. In keeping with their leadership role, OIRM and NDPD prepared an IRM strategic plan, which will be updated annually. Together with more detailed operational and tactical plans from OIRM, NDPD, and other EPA organizations, the *IRM Strategic Plan* establishes a clear baseline of the Agency's plans to use information resources to support its environmental priorities and investment decisions. The *IRM Strategic Plan* presents a vision of the Agency's future computing environment. Chapter 2, FY 1990 PRIORITIES AND INITIATIVES, presents many of the key themes in the strategic plan.

IRM Review Program

The EPA needs to make full use of the existing IRM organization and other IRM-related review activities to implement this review program with the resources available (dollars for contractor support are limited, as are in-house personnel). The Agency does not have the resources to establish a full-time staff dedicated to the IRM review process.

The reviews are staffed and conducted in a variety of ways. While Appendices A and B present the approach on a review-by-review basis, a description of the overall review structure is appropriate here.

Central coordination of the review process is the responsibility of OIRM. More than one-half of the reviews are led by OIRM or NDPD; most of the remaining reviews are program-led (that is, led by program office staffs with oversight by the SIRMOS). This allocation of "lead responsibility" helps ensure that the reviews use an appropriate mix of headquarters, Regional, program and technical personnel.

OIRM achieves overall coordination of the review process through the regularly scheduled SIRMOS meetings and the IRM Steering Committee. By discussing the review program at the meetings, OIRM ensures that any potential duplication in review content is eliminated. In addition, OIRM staff periodically interview SIRMOS to identify IRM-related program initiatives and to ensure that program-led reviews are on track.

1: INTRODUCTION

* * * * *

This chapter provided background information on the Agency and its IRM review program.

- EPA is the public's advocate for a livable environment.
- Responsibilities within the Agency for managing information resources are shared among the Office of Policy, Planning and Evaluation (OPPE), the Office of Information Resources Management (OIRM), the National Data Processing Division (NDPD), an IRM Steering Committee, and 22 designated Senior IRM Officials (SIRMOs).
- EPA's IRM policies and procedures are fully documented in its *EPA IRM Policy Manual*.
- EPA's *IRM Strategic Plan (1991-1995)* establishes a clear baseline of the Agency's plans to use information resources to support its environmental priorities and investment decisions.
- Central coordination for the IRM review process is the responsibility of OIRM. Reviews may be staffed and conducted by OIRM or by the Agency's mission-based programs.

Chapter 2: FY 1990 Priorities and Initiatives

This chapter further establishes the context for the EPA IRM review program by providing information on:

- FY 1990 government-wide priorities for the IRM review program;
- EPA's priorities for achieving its environmental mission;
- the Agency's IRM review program objectives; and
- the Agency's IRM initiatives for FY 1990.

These priorities and initiatives, which are summarized in Figure 3, were the focus of many IRM reviews during FY 1990.

Government-Wide Priorities

Each year for the Federal IRM Review Program, GSA identifies priority areas that agencies should address which could lead to better management of resources throughout the government. The five priority areas for fiscal year 1990 were:

- Telecommunications— In fiscal year 1990, GSA expected agencies to devote a portion of the telecommunications reviews to electronic data interchange within and among agencies. Specifically, Agencies should have conducted reviews which examined the standards for and security of transmissions of mission-based data.
- Information Management— The Federal government is changing rapidly from the use of paper for business and financial transactions to electronic alternatives. For instance, under OMB Bulletin 89-17, agencies are required to address their initiatives to convert business and financial transactions from paper to a standard electronic form and the transmission of that information between industry and the Federal government using magnetic tape, diskette, or other means. This process is known as Electronic Data Interchange (EDI). In FY 1990, agencies were expected to review their current usage of electronic forms technologies and applicable standards and to identify opportunities for improvements.

2: FY 1990 PRIORITIES AND INITIATIVES

Figure 3. FY 1990

PRIORITIES AND INITIATIVES.

These priorities and initiatives were the focus of many IRM reviews during FY 1990.

FY 1990 PRIORITIES AND INITIATIVES	
GOVERNMENT-WIDE PRIORITIES	• Telecommunications • Information management • ADP security • ADP management • Major information systems
EPA MISSION-BASED PRIORITIES	• Enforcement • Pollution prevention • Risk reduction • Ecosystem protection • Leadership in the environmental arena • Improved science and data management
IRM REVIEW PROGRAM OBJECTIVES	• Provide high quality information services • Use effectively IRM-related resources and technologies • Comply with Federal IRM laws • Work toward data integration • Provide adequate data security • Minimize unnecessary duplication of data • Reduce the Federal information collection burden • Promote data sharing • Provide effective ADP and telecommunications capabilities • Emphasize government-wide IRM priorities • Promote productive use of human resources
IRM INITIATIVES	• Data sharing and integration • Program systems modernization • Standards • Improved records management • Information technology acquisitions • Public dissemination • Electronic data reporting

- ADP Security— In FY 1990, GSA expected agencies to review the extent of implementation of their security plans. [See Chapter 3, Status of ADP Security Plans]
- ADP Management— In addressing ADP management in fiscal years 1990-1991, GSA expects agencies to emphasize reviews that attempt to determine whether mechanisms are in place to satisfy the agency's regulatory and managerial responsibilities for the effective and efficient use of information technology. Agencies should, in particular, focus on: (1) Multiple Award Schedule Contracts (MASC), as governed by procedures in FIRMR 201-32.206; and (2)

FY 1990 IRM REVIEW PROGRAM REPORT

Access to information technology by users with disabilities, as mandated by the Rehabilitation Act of 1973 and reauthorized in 1986.

- Major Information Systems— GSA will be focusing special attention on the government's major information systems next year. [See Chapter 4 for more information.] In FY 1990, agencies were expected to have reviewed the efficiency, effectiveness, and economic viability of their information resources.

The benefits of the reviews in addressing government-wide priorities will be described in the next chapter.

EPA Priorities

Under the leadership of its current Administrator, William K. Reilly, EPA in FY 1990 established six priorities for achieving its environmental mission:

- enforcement,
- pollution prevention,
- risk reduction,
- ecosystem protection,
- leadership in the international environmental arena, and
- improved science and data management.

EPA's first priority is **enforcement**. Opinion polls confirm that the public continues to put a very high priority on environmental protection. Recently passed Federal environmental statutes have made new administrative penalties available, and States have developed strong law enforcement capabilities as well. In the years ahead, EPA will be looking for more and better ways of coordinating its enforcement efforts with States— especially in the Superfund program, in protecting wetlands, and in cleaning up Federal facilities.

EPA's ability to monitor compliance or control enforcement would be seriously hampered without complete and timely information. In addition, without the proper tools, information that was reliable would not be easily analyzed or shared with States and other Federal agencies. It is, therefore, essential that the Agency continue to address issues of sound science and data management—to develop collection and analysis tools, ensure data quality, and provide for access to and dissemination of data.

2: FY 1990 PRIORITIES AND INITIATIVES

EPA's second priority is **pollution prevention**. Pollution prevention has become a guiding principle for all EPA programs—from municipal wastewater treatment to toxic air pollution. Among the many pollution prevention initiatives underway within the Agency are:

- achieving a 25% waste reduction by 1992 through recycling and reducing wastes at the source;
- increasing the amount of private sector involvement in financing and providing environmental services (the concept of public-private partnerships); and
- fostering economic growth and progress without irreversibly depleting the natural capital of the planet (the concept of sustainable development).

It would be difficult to effectively persuade the public of the continued value of these initiatives without sound evidence of the long term benefits and the costs of inaction. Improved science and data management go hand-in-hand with the success of these initiatives.

EPA's third priority is **risk reduction**. One of the greatest challenges facing the Agency today is the setting of priorities and strategies for reducing risk to human health and the environment. Despite the inherent uncertainties in, and continuing controversies over, how to assess risks such as ozone depletion and global climate change, comparative risk assessment is still one of the best indicators of where the U.S. should be directing its limited resources to achieve the greatest results.

Sound science and data management can help to establish priorities and allocate resources based on risk. Science can lend much-needed coherence, order and integrity to the often costly and controversial decisions that must be made. Sound data management is needed to demonstrate results in risk reduction.

EPA's fourth priority is **ecosystem protection**. Natural ecosystems such as forests, wetlands, and oceans are extraordinarily valuable. Ecosystems contain economically valuable natural resources that feed, clothe, and house the human race.

Existing EPA programs designed to protect ecosystems, such as the "no net loss of wetlands" and the new medical waste tracking program to protect our nation's coasts, require the strengthening of existing Federal programs and regulations that protect, maintain, and restore those systems. EPA must also work toward a fully integrated management approach with the Departments of

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Agriculture, Commerce, and Interior to protect the nation's groundwater and surface water resources. The Agency has embarked on an ambitious program of environmental monitoring and assessment to obtain a baseline understanding of major ecosystems. Improved science and data management are essential to the success of this ecosystem characterization effort.

The fifth priority set by the Administrator of EPA is to reassert **U.S. leadership in the international environmental arena**. In response to the President's international initiatives for the environment, a new international data sharing program was launched with a three-fold goal:

- establish the U.S. as a reliable partner in international information exchange relationships;
- ensure environmental data is in a form useful to other nations; and
- assist developing nations to establish effective local information management capabilities.

The development of this new program combines a realistic analysis of Agency international data sharing activities with a plan to build firmly on existing international relationships. EPA will also strengthen its relationships with international organizations, especially the United Nations INFOTERRA program, a worldwide network for sharing environmental information.

EPA's final priority is **improved science and data management**. It is no surprise that science and data management issues are essential to each of the previous five priorities. Environmental protection is data intensive, with over two million regulated sources, and effectively managing that data is key to all environmental protection efforts. As the EPA Administrator recently said, "All we really have is information... Nothing is more important to our integrity in environmental protection than a reputation for dealing in facts, for respecting sound science and sound information." EPA must be able to document its vigorous enforcement programs and to show environmental results. That means that the information technology EPA deploys today will be the cornerstone for protecting our natural resources tomorrow.

IRM Review Program Objectives

The goal of information resources management within the Agency is to provide a means of carrying out information management activities in an efficient, effective, and economical manner that supports the Agency's missions (as stated above) and is consistent with all applicable laws and regulations. It is the mission of OIRM and NDPD to provide leadership in managing and delivering information resources and services.

To achieve this goal, the EPA has established several IRM-related objectives which reflect the uniqueness of its overall mission, Agency priorities, government-wide priorities, and the requirements of §3506 of the Paperwork Reduction Act. These objectives are to:

- Support programs and administrative functions in the fulfillment of their responsibilities by providing them with high quality information services in an efficient and cost-effective manner.
- Use effectively the capabilities afforded through rapidly evolving information-related resources and technologies in support of the Agency's mission and implementation of EPA's basic programs, with a focus on achieving environmental results.
- Ensure that EPA information goals, policies, plans, and strategies comply with Federal IRM laws and regulations and support Agency missions.
- Work toward the integration and coordination of information systems across media, functional, and program lines.
- Provide adequate security for sensitive Agency information and applications and promote the sharing of information resources consistent with security requirements.
- Minimize unnecessary duplication of information systems and databases.
- Reduce the Federal information collection burden on members of the public and on State and local governments.
- Promote data sharing with States, national and international environmental organizations, as well as the general public.
- Provide effective automated data processing and telecommunications resources and facilities.

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- Emphasize government-wide information technology priorities, especially as they relate to promoting the effectiveness of Agency programs.
- Promote productive utilization of EPA's human resources in support of the Agency's mission.

The focus of the EPA IRM review program for FY 1990 continues to be the assessment of how well the Agency is meeting the above IRM objectives and furthering its mission-based goals.

IRM Initiatives for FY 1990

To respond to new government-wide priorities and evolving Agency IRM needs, the EPA has undertaken several IRM initiatives during FY 1990. The seven initiatives listed below address all five government-wide priorities, as well as the Agency-specific priorities described earlier.

1. *Data Sharing and Integration*

EPA's IRM planners realize the significance of data sharing and integration and are involved in various efforts to improve these activities. The Agency recently developed a multi-year Information Integration Initiative to promote enhanced access to data and to permit integrated environmental analysis. It also recently initiated the International Data Sharing Program to promote reliable and innovative use of environmental data with our international neighbors.

In addition to the State/EPA Data Management Program, the Agency has implemented a Geographic Information System in all ten Regions. Recent efforts were also focused on the development of the data communications network required to provide increased access to internal and external parties. This includes establishing a communications line or "point of presence" in every State to support the delegation of authority. To date, forty-six States and Puerto Rico have established direct communications capabilities, and the remaining States are scheduled to do so within the next year. This telecommunications network supports six of EPA's national systems.

2: FY 1990 PRIORITIES AND INITIATIVES

2. *Program Systems Modernization*

A significant, ongoing IRM initiative is program systems modernization. This modernization effort is critical to effectively integrating environmental data among various program systems. Two major information systems, FINDS (the Facility INDEX System) and STORET (STORage and RETrieval of Water Quality Data) are currently examining the alternatives and feasibility for modernization.

This initiative also involves the creation of four new services and IRM activities to support the systems development process. First, the EPA Systems Development Center, which became operational in October 1989, supports, develops, and enhances EPA's mission-critical data systems. The center is the Agency Center of Excellence for systems development. The center institutes more standardized methods of developing systems, thus facilitating the integration of data maintained by the various program systems.

The second new service is the EPA Systems Modernization Fund which provides funding assistance for projects to improve the quality of EPA's environmental data and the systems for managing those data. Third, a Systems Development Support Team supports systems planning and development efforts throughout the Agency. Finally, the charter for the IRM Steering Committee has been expanded to establish it as the Board of Directors for the overall initiative.

3. *Standards*

The success of other IRM initiatives depends on the availability of, and adherence to, well-defined data standards for data elements common among Agency information systems. Development of standards is critical to progress in data integration and improvements in managing for environmental results.

Several initiatives were devoted to the development and adoption of standards within the Agency. A standard for facility identification was adopted by the Agency in FY 1990, as were a locational data policy and a standard for the minimum set of groundwater data elements. Also issued during the past year, the *EPA ADP Applications Guidance on Hardware and Software Selection* is intended to provide guidance on standardizing application platforms.

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4. *Improved Records Management*

Emphasis has been placed on improving records management procedures and evaluating opportunities for automating access to and control of records as one mechanism for enforcing and litigating pollution clean-up efforts. These improvements directly support the mission-based goal of ensuring a strong enforcement presence.

A major Agency initiative involves development of an image processing system using optical disk technology for expanded storage and rapid retrieval of financial documents supporting cost recovery efforts. Other initiatives involve training Headquarters and Regional EPA staffs in the discipline of records management and establishing Regional records centers for better control and management of Agency records. In addition, the Agency recently organized and conducted a very successful records management clean-up campaign in its Headquarters.

5. *Information Technology Acquisitions*

In addition to efforts to improve information and records management through procurement of optical disk technology, the Agency is pursuing other information technology acquisitions. EPA will continue to acquire mainstream commercial hardware to ensure that compatible software and technical support will be available in the foreseeable future. EPA's current OMB budget request includes funds to purchase a supercomputer.

Additional acquisitions of information technology include the expansion of the telecommunications network to meet data sharing needs of the Regions and States and the continued acquisition of microcomputers to improve analysis of data for enhanced decision making.

6. *Public Dissemination*

There is an increasing demand on EPA for disseminating information to the public. Specific legal requirements to disseminate information that are affecting EPA include SARA Title III, the Federal Insecticide, Fungicide, and Rodenticide Act, and the Asbestos Information Act. In addition, several environmental bills introduced in the current session of Congress include some requirement for

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disseminating information. Fulfillment of these requirements demands significant IRM resources.

On a selective basis, EPA is evaluating various technology solutions for disseminating information to the public. Current initiatives include use of paper, micrographics, on-line data bases, and CD-ROM. Moreover, OIRM recently developed a draft policy on data sharing. This policy is particularly relevant as Congress debates Community-Right-To-Know legislation and re-authorization of the Paperwork Reduction Act. Recent reviews evaluated the efficiency and effectiveness of the Agency's clearinghouses, electronic bulletin boards, dockets, and hotlines for providing access to public information. More specifically, EPA also reviewed the reliability and turnaround time of data in the Toxic Release Inventory.

7. *Electronic Data Reporting*

Since the majority of EPA's data are externally generated, initiatives involving improvements in data reporting by external parties offer considerable potential for progress in information management at EPA. Increased manageability and quality of data are arguments in support of these initiatives in electronic reporting.

Several efforts are currently underway to enhance data reporting by accepting electronic submissions from external parties. These include electronic submissions under the Title III, Toxic Release Inventory, and Superfund Contract Lab programs. The Agency has convened a task force within the last year to examine issues relating to electronic reporting standards and develop a policy on electronic data reporting.

* * * * *

This chapter described the priorities and initiatives that were the focus of the FY 1990 IRM reviews. Specifically, there are:

- five government-wide priorities (telecommunications, information management, ADP security, ADP management, and major information systems) for the FY 1990 Federal IRM Review Program;
- six Agency mission-based priorities (enforcement, pollution prevention, risk reduction, ecosystem protection, leadership

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in the international environmental arena, and improved science and data management);

- many IRM review program objectives for which the Agency strives, including integrating environmental information, providing public access to data, and promoting data sharing with State, local and international organizations; and
- seven major IRM initiatives, including improved records management and program systems modernization, many of which were or will be the subject of IRM reviews.

Chapter 3: FY 1990 IRM Reviews

The purpose of this chapter is to summarize the results of the fifth year of the EPA's IRM review program. Included in this chapter are four sections which:

- describe and categorize the FY 1990 reviews;
- summarize the benefits of the review program;
- document the status of the Agency's ADP security plans; and
- evaluate compliance with §3506 of the Paperwork Reduction Act.

Analysis of the IRM Review Program

In FY 1990, EPA has conducted another successful IRM review program. Numerous initiatives were begun which address the Agency's mission and government-wide priorities. The reviews conducted of many of these projects identified or confirmed weaknesses and recommended appropriate courses of action. The next two sections below summarize the number and types of reviews conducted and some of their more important findings.

Summary of 1990 Reviews

In FY 1990, the Agency completed eleven reviews while making considerable progress towards improving the efficiency and effectiveness of information management activities. Table 1 lists and describes the reviews. Brief synopses are presented in Appendix A.

Four reviews this year were led by OIRM, one by OPPE, two by the National Data Processing Division (NDPD), three reviews by program offices, and one jointly by the Procurement and Contracts Management Division (PCMD) and OIRM. All of the reviews addressed at least one requirement of the Paperwork Reduction Act (as will be discussed in a later section of this chapter).

All of the reviews focused on Agency-specific IRM initiatives, and all reviews dealt with at least one government-wide priority described in Chapter 2. Information management received special attention, with nine of the reviews addressing this priority.

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Table 1.

SUMMARY OF REVIEWS FOR FY 1990

- 90-1 Security Reviews** — The objective of these reviews was to assess the adequacy of physical security controls at EPA's National Computer Center and Washington Information Center.
- 90-2 Integrated Contracts Management System Study** — This analysis was conducted to assess the extent of the need for a system to manage the procurement process and to establish exactly what would be required of such a system if it is needed.
- 90-3 Review of Records and Forms Management Programs** — The intent of this analysis was to provide a comprehensive evaluation of records and forms management programs in EPA Headquarters offices. The analysis yielded three reports which helped to define the future office environment for EPA staff from an administrative perspective.
- 90-4 Review of Public Information Access Services** — This review evaluated the efficiency and effectiveness of the four major systems and services currently used by EPA to facilitate information access by the public. These are: clearinghouses, electronic bulletin boards, dockets, and hotlines.
- 90-5 Telecommunications Evaluation** — The purpose of this review was to identify the available suite of data communications services to satisfy mission-based and administrative requirements through 1995.
- 90-6 Review of Data Management Practices for Automated Laboratories** — The Agency initiated this review (1) to ensure the integrity of computer-resident laboratory information, and (2) to examine the need for establishing standard data management practices for automated laboratory operations.

Continued on next page

Four of the six reviews previously planned for FY 1990 were completed (90-3, 90-4, 90-5, and 90-6). Two reviews (formerly 90-1 and 90-2) were postponed because of resource constraints. Seven new reviews (90-1, 90-2, 90-7, 90-8, 90-9, 90-10, and 90-11) were added to address other information resources issues of concern to the Agency.

Several different methodologies were used to conduct the reviews, depending on the nature and objectives of the review. Review data were obtained from interviews, documentation analyses, telephone surveys, symposium discussions, research of technical and regulatory issues, case studies, and analysis of work processes.

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SUMMARY OF REVIEWS FOR FY 1990 (Continued)

- 90-7 Evaluation of Electronic Forms** — The purpose of the evaluation was to study the feasibility of utilizing LAN-based electronic forms applications as a front-end to the planned Integrated Administrative System (IAS).
- 90-8 Office of Water Data Sharing and System Compatibility Study**— This project was intended to identify impediments to data sharing and system compatibility in priority data systems maintained by/for the Office of Water (OW) and to evaluate potential solutions to those impediments for feasibility and effectiveness.
- 90-9 Toxic Release Inventory Productivity Review** — The purpose of the study was to conduct a productivity review of the Toxic Release Inventory (TRI). The task was to identify strengths and weaknesses and to target specific areas where operations may be improved to lessen costs, strengthen data reliability, and reduce the time required to release data.
- 90-10 Superfund Document Management Review** — The purpose of the study was to (1) develop a comprehensive understanding of the current document management environment throughout the Superfund program; (2) determine where advanced technologies might be appropriate; and (3) propose long-term improvements and system solutions.
- 90-11 Electronic Reporting Study** — The objectives of this study were to: (1) assess the scope and success of having the regulated community submit reports to EPA in an electronic or magnetic medium; (2) identify EPA programs that would benefit most from new EPA electronic reporting initiatives; (3) assess the feasibility of such initiatives; and (4) determine the costs and benefits of a coordinated Agency-wide approach to electronic reporting.

Review Findings and Recommendations

FY 1990 reviews resulted in a number of recommendations for improving the efficiency and effectiveness of Agency information management activities. Some highlights of review findings and recommendations were as follows:

- The security reviews (90-1) conducted by NDPD identified areas in which access controls could be strengthened to reduce the potential for security violations.
- The Integrated Contracts Management System (ICMS) study (90-2) found that the current execution of procurement and

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contracts management functions involves at least 12 different systems, as well as a variety of manual processes and systems.

- A review of the Agency's records and forms management programs (90-3) concluded that, to minimize the amount of time that OIRM must spend on administrative support in the future, administrative activities need to be streamlined. This can be accomplished by developing automated systems and revamping disposition schedules. An "office of the future" concept was developed to visualize the Agency's future office automation needs.
- A review of the Agency's clearinghouses, hotlines, dockets, and electronic bulletin boards (90-4) recommended that the consistency of access and quality of information could be improved through the use of a single referral source and an automated listing of EPA information sources.
- The telecommunications evaluation (90-5) found that, although reliable data communication service has always been important, in the 1990s, it will become imperative as telecommunications services expand and their use increases.
- The review of data management practices for automated laboratories (90-6) determined that there are serious gaps in system security, data validation, and documentation that may jeopardize the integrity of computer resident data. It recommended that a guide be developed to provide a single authoritative directory and summary for use by laboratories in the design and use of automated data collection systems.
- A benefit/cost analysis conducted during the evaluation of electronic forms (90-7) demonstrated that using Local Area Network-based electronic forms systems as the front-end to an integrated administrative system is a cost-effective investment. Automation of the input from local office administrative forms to national administrative systems would provide further savings and increased capabilities and efficiencies.
- The Office of Water Data Sharing and Systems Compatibility Study (90-8) found that there are many reasons why data and system integration initiatives must be actively supported, and modernization initiatives have commenced which afford the opportunity to integrate many program data systems.
- The TRI Productivity Review (90-9) found that the accuracy of data in the system is extremely high. However, it has

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come at the expense of timeliness and cost. Therefore, it was recommended that EPA establish unambiguous goals for accuracy and timeliness which balance the two with operational costs.

- The Superfund Document Management Review (90-10) concluded that, although the Regions have made significant progress in addressing document management problems, the management of Superfund records continues to be critical to support effectively the program's mission.
- The electronic reporting study (90-11) found no serious legal or security obstacles to instituting electronic reporting. The study also identified the TRI Form Rs, the NPDES (National Pollutant Discharge Elimination System) Discharge Monitoring Reports (DMRs), and the RCRA (Resource Conservation and Recovery Act) Biennial Reports to be likely candidates for electronic reporting.

The Agency has taken many initiatives and actions in response to the review findings and recommendations. Some highlights of initiatives and actions are as follows:

- As a result of the security reviews, badges will be displayed in computer areas at all times, and water chillers and cutoff valves have been secured from general access.
- As a result of the review of contract management systems (90-2) an integrated contracts management system (ICMS) is being developed which will track the contract from initiation through contract close-out.
- The Agency has begun to revamp its records disposition schedules and is drafting new policy and procedures for creating, reviewing, and approving schedules. EPA has also begun the development of an automated system for records disposition schedules.
- An implementation schedule through 1995 has been developed to phase in upgrades in telecommunications services and equipment.
- The *Automated Laboratory Standards: Good Automated Laboratory Practices (GALPs) for EPA Programs* has been completed to guide automated laboratories in ensuring that computer-resident data are of high quality and can be relied upon by the Agency.

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- An integrated administrative system (IAS) concept is scheduled to be refined and analyzed in FY 1991 (91-4).
- The Office of Water Data Sharing and System Compatibility Study has received senior management support, and modernization efforts have already begun for STORET.
- EPA has initiated action to consolidate the TRI operational contract under one contractor to improve efficiency, and is acquiring a software package which TRI reporters can use to report data electronically.
- EPA's Office of Solid Waste and Emergency Response (OSWER) has initiated the development of an optical disk-based system to manage Superfund records.

The above list of findings and actions serves to emphasize the extensiveness of this year's IRM review program. For a complete listing of review findings and actions, refer to Appendix A.

Benefits of the IRM Review Program

The eleven reviews completed by EPA during FY 1990 addressed many government-wide priorities and Agency IRM initiatives. (See Figure 4.) The two sections which follow describe the benefits of the IRM review program in these two areas.

Government-wide Priorities Addressed

The five government-wide priorities set by GSA, as described in Chapter 2, were developed to help Agencies focus on policies and procedures that could lead to better management of resources throughout the government. The Agency's success in addressing these priorities is summarized below.

- Telecommunications— Five reviews addressed aspects of this priority in FY 1990. The reviews were in direct support of the EPA IRM objective of providing effective automated data processing and telecommunications resources and facilities.

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Figure 4. FY 1990 EPA IRM REVIEWS AND PRIORITIES. This matrix shows the government-wide priorities and IRM initiatives addressed by FY 1990 reviews.

EPA IRM Initiatives	Data Sharing and Integration		•	•	•			•	•				
	Program Systems Modernization								•				
	Standards			•	•	•	•	•	•		•	•	
	Improved Records Management		•	•	•		•	•			•	•	•
	Information Technology Acquisitions			•		•		•					
	Public Dissemination					•					•		
	Electronic Data Reporting			•			•	•			•		•
Government-Wide Priorities	Major Information Systems		•						•	•	•		
	ADP Management						•	•		•		•	
	ADP Security	•	•	•	•		•	•			•	•	
	Information Management		•	•	•		•	•	•	•	•	•	
	Telecommunications					•	•		•		•		•
Number	Review Title												
90-1	NDPD Security Reviews												
90-2	Integrated Contracts Management System Study												
90-3	Comprehensive Analysis of Records and Forms Management Programs												
90-4	Review of Public Information Access Services												
90-5	Telecommunications Evaluation												
90-6	Review of Data Management Practices for Automated Laboratories												
90-7	Evaluation of Electronic Forms												
90-8	Office of Water Data Sharing and System Compatibility Study												
90-9	Toxic Release Inventory Productivity Review												
90-10	Superfund Document Management Study												
90-11	Electronic Reporting Study												

Review 90-4 examined the methods by which EPA makes its information publicly available, including telecommunications. Review 90-5 was a general evaluation of telecommunications in EPA. Review 90-7 addressed the ability of EPA to electronically connect offices, in part via telecommunications, for the purpose of utilizing electronic

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administrative forms as opposed to the current paper-based system.

Review 90-9 included telecommunications as one factor in TRI productivity, and review 90-11 investigated telecommunications aspects of electronic reporting to EPA by regulated entities.

- Information Management— EPA completed more reviews addressing this priority than any other. Nine of the eleven reviews completed in FY 1990 addressed some aspect of information management.

Several of the reviews addressed the efficiency and effectiveness of current information management practices and recommended improvements to upgrade, integrate, and consolidate current paper-based and electronic systems. Review 90-3 was aimed specifically at evaluating records and forms management programs within the Agency, with the intent of preparing for the office of the future. Review 90-7 analyzed the possibility of moving to electronic forms for administrative functions which would ultimately be part of an integrated administrative system. Review 90-6 analyzed how information is handled in automated laboratories so that policies and standards may be developed to manage it more effectively. Review 90-11 examined opportunities for the regulated community to report data in electronic format.

Two reviews, 90-4 and 90-9, assessed management of information that must be publicly accessible. The former addressed EPA's public information access services, such as clearinghouses and hotlines, and how data management could be improved. The latter review looked at the information system on toxic releases to assess the productivity and recommend enhancements.

Two reviews, 90-2 and 90-8, simultaneously assessed a number of data systems so that a coordinated approach could be used to manage them. For the multitude of contract management systems, consolidation was recommended. Among Office of Water priority data systems, it was determined that future system modernization efforts should include improving the ability to share data.

Review 90-10 evaluated how Superfund records are managed and recommended several improvements, including the development of a multi-media oriented system called the Superfund Document Management System (SDMS).

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- ADP Security— During FY 1990, eight reviews were conducted which addressed aspects of this priority. Obviously, this was the primary focus of the NDPD security reviews, 90-1. Security concerns and considerations were also taken into account during the reviews of the Integrated Contracts Management System (90-2), records and forms management (90-3), public information services (90-4), automated lab procedures (90-6), electronic forms (90-7), Superfund document management (90-10), and electronic reporting (90-11).
- ADP Management— Four reviews were conducted which addressed this priority in FY 1990. The Office of Water analyzed in review 90-8 all their priority data systems so that a single, comprehensive plan could be developed for managing these systems with the objective of improving the data integration capabilities and the usefulness to end-users. Review 90-5 was of the telecommunications aspect of ADP management. Review 90-6 investigated ADP management of laboratory procedures, and review 90-10 addressed aspects of ADP management required for effective management of Superfund documents.
- Major Information Systems— During FY 1990, the EPA completed four reviews addressing this priority area. One of the reviews, 90-9, was of one of the Agency's more recent information systems on toxic releases. It assessed the productivity of the system in terms of accuracy, timeliness, and costs. The EPA is required by law to make that information publicly accessible, so there is a great deal of interest in insuring that it is the best system possible. The other review, 90-2, was of a variety of minor systems for managing different aspects of the contracts management lifecycle. However, the results of the review are that those systems should be consolidated into one major information system. As a result, work has begun on such a system. The mission needs for it have been analyzed and preliminary requirements and options have been identified. The system development will continue. Two reviews, 90-8 and 90-10, evaluated areas where existing mission-based systems could be improved and where new systems development is necessary.

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IRM Initiatives Addressed

As described in Chapter 2, EPA had a number of IRM initiatives underway in FY 1990 to improve the efficiency and effectiveness of Agency systems.

Data sharing and integration was addressed in reviews: 90-2, 90-3, 90-4, 90-7, and 90-8, each of which simultaneously evaluated multiple systems to develop a common goal. *Program systems modernization* was a major component of the Office of Water study (90-8). *Standards* were a focus of a majority of the reviews because they will facilitate data integration: 90-3, 90-4, 90-8, and 90-10; improve the legal defensibility of data: 90-6; and be required for electronic reporting and forms: 90-5, 90-7, and 90-11.

Eight reviews were intended to *improve records management*: three for administrative tasks: 90-2, 90-3, and 90-7; two to keep the public informed: 90-4 and 90-9; and three for programs and program support: 90-6, 90-10, and 90-11. *Information technology acquisitions* were part of reviews 90-3, 90-5, and 90-7 all of which attempt to predict future trends in technology and how the Agency can plan for, utilize, and benefit from them. Reviews 90-4 and 90-9 evaluated methods of *public dissemination* of information through the Agency's clearinghouses, dockets, electronic bulletin boards, and hotlines as well as the toxic release data system. *Electronic data reporting* was an important component of the reviews of records and forms (90-3), automated laboratories (90-6), and of electronic forms (90-7). Review 90-9 analyzed how electronic reporting could impact the timeliness of TRI data reporting. The objective of 90-11 was to study the potential for electronic reporting within the Agency.

All eleven reviews addressed many or most IRM review program objectives as well. Refer to Chapter 2 for a listing of these objectives.

Status of ADP Security Plans

EPA reviewed all NIST/NSA (National Institute of Standards and Technology/National Security Agency) requirements and shared this information with SIRMOS and responsible system managers. An outreach and awareness program is underway to ensure action on the requirements. EPA is assessing the need to revise the original security plans and the need to update its inventory of sensitive systems.

Evaluation of §3506 Compliance

Addressing the requirements of Section 3506 of the Paperwork Reduction Act is a central part of the EPA IRM program. Rather than developing a single IRM review to evaluate 3506 compliance, the Agency made compliance evaluation an integral part of the overall review process by weaving it into many different reviews completed during FY 1990. By evaluating compliance in terms of a set of reviews that are also designed to assess progress in achieving government-wide and Agency-specific priorities, the EPA obtained a more concrete picture of its status vis-a-vis §3506.

Agency compliance with §3506 is described in detail in the sections that follow. The discussion follows the overall organization of §3506, as documented in Table 2, dealing with each of the requirements sequentially. Review numbers cited refer to the reviews listed in the table presented earlier.

Effective, Efficient Information Management Activities; Compliance with Information Policies, Principles, Standards, and Guidelines Prescribed by the Director

Several of the reviews focused on evaluating the effectiveness of information management activities. Review number 90-1 evaluated the Agency's information security program. In the records management area, the review program included a comprehensive group of reviews — 90-2, 90-3, and 90-4. Reviews 90-3, 90-4, 90-7, and 90-8 dealt with the important information management activity of end-user computing, and review 90-2 addressed the software development process. Two reviews focused on legislated provisions of making information available to the public: 90-4 and 90-9.

Several reviews were also designed to assess whether or not the Agency is using its information resources efficiently and cost effectively. These included reviews 90-2, 90-3, 90-4, 90-7, 90-8, 90-9, and 90-11.

When these reviews identified opportunities for improvement, appropriate actions were and are being taken. To incorporate OMB guidance into EPA IRM operations, the Agency has established core IRM policies in its *EPA IRM Policy Manual*, as explained earlier in Chapter 1.

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Table 2.

PAPERWORK REDUCTION ACT §3056. Federal agency responsibilities

(a) Each agency shall be responsible for carrying out its information management activities in an efficient, effective, and economical manner, and for complying with the information policies, principles, standards, and guidelines prescribed by the Director.

(b) The head of each agency shall designate, within three months after the effective date of this Act, a senior official or, in case of military departments, and the Office of the Secretary of Defense, officials who report directly to such agency head to carry out the responsibilities of the agency under this chapter. If more than one official is appointed for the military departments the respective duties of the officials shall be clearly delineated.

(c) Each agency shall—

(1) systematically inventory its major information systems and periodically review its information management activities;

(2) ensure its information systems do not overlap each other or duplicate the systems of other agencies;

(3) develop procedures for assessing the paperwork and reporting burden of proposed legislation affecting such agency;

(4) assign to the official designated under subsection (b) the responsibility for the conduct of and accountability for any acquisitions made pursuant to a delegation of authority under section 111 of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 759);

(5) ensure that information collection requests required by law or to obtain a benefit, and submitted to nine or fewer persons, contain a statement to inform the person receiving the request that the request is not subject to the requirements of section 3507 of this chapter;

(6) implement applicable Government-wide and agency information policies, principles, standards, and guidelines with respect to information collection, paperwork reduction, statistical activities, records management activities, privacy and security of records, sharing and dissemination of information, acquisition and use of information technology, and other information resources management functions;

(7) periodically evaluate and, as needed, improve, the accuracy, completeness, and reliability of data and records contained within Federal information systems; and

(8) develop and annually revise a 5-year plan, in accordance with appropriate guidance provided by the Director, for meeting the agency's information technology needs.

(d) The head of each agency shall establish such procedures as necessary to ensure the compliance of the agency with the requirements of the Federal Information Locator System, including necessary screening and compliance activities.

(Added Pub. L. 96-511, § 2(a), Dec. 11, 1980, 94 Stat. 2819.)

(As amended Pub. L. 99-500, § 101(m) [title VIII, § 816], Oct. 18, 1986, 100 Stat. 1783-308, 1883-338, and Pub. L. 99-591, § 101(m) [title VIII, § 816], Oct. 30, 1986, 100 Stat. 3341-308, 3341-338.)

REFERENCES IN TEXT

The effective date of this Act, referred to in subsec. (b), is Apr. 1, 1981. See section 5 of Pub. L. 96-511, set out as an Effective Date note under section 3501 of this title.

CODIFICATION

Pub. L. 99-591 is a corrected version of Pub. L. 99-500.

Senior Official to Carry Out Agency Responsibilities

The delineation of responsibilities between the Assistant Administrator for OPPE and the Director of OIRM in carrying out the responsibilities of the Act was explained in Chapter 1.

Specific Required Activities

Eight IRM-related activities are mandated under the 1986 reauthorization of §3506. Those requirements and the EPA IRM activities addressing them are listed below.

- Inventory Major Information Systems; Periodically Review Information Resources Management Activities — The Agency has developed an inventory of its major information systems. This inventory is automated, which allows users to retrieve descriptive information on systems and to perform searches. The EPA also publishes, semiannually, an *Information Resources Directory* with system descriptions and contacts for further reference. To periodically review information resources management activities, the Agency has fully implemented the Federal IRM Review Program, which is coordinated by the Information Management and Services Division of OIRM. The Office of Water conducted a comprehensive review of their priority information systems to identify impediments to data sharing and to come up with a coordinated scheme for modernizing and improving the systems (90-8).
- Information System Overlap — Because of the uniqueness of the Agency's mission in administering the Federal environmental statutes, duplication or overlap with the systems of other agencies is less an issue than duplication or overlap with the systems of State environmental authorities. The Agency is conducting the State/EPA Data Management Program to provide information sharing and integration. This program eliminates the duplication and overlap of State systems by providing States direct access to EPA systems. The Agency also performed several reviews focusing in part on identifying and eliminating duplication in its own information systems. (See review numbers 90-2, 90-3, and 90-8.)
- Paperwork and Reporting Burden — The EPA has developed procedures for assessing the paperwork and reporting burden of proposed legislation affecting the

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Agency. To evaluate the compliance in controlling the paperwork and reporting burden on the public, the review of the Toxic Release Inventory (90-9), analyzed the reporting burden that Form R placed on industry. The review indicated that it was not unreasonable, so the form did not need to be redesigned for that reason. Review 90-11 also explicitly considered reporting burden in the context of electronic reporting.

- Accountability for Acquisitions — The Director of OIRM has been assigned the responsibility for acquisitions made pursuant to a delegation of authority from GSA. Accountability for PCs is maintained through the PC planning process where acquisitions are formally approved and tracked.
- Information Collection Requests — The EPA has established a process to ensure that small information collection requests (to nine or fewer persons) contain a statement to inform the person receiving the request that the request is not subject to the requirements of §3506 of the Act.
- Implementation of Applicable Information Policies, Standards, and Guidelines — §3506 also requires agencies to implement applicable information policies, standards, and guidelines with respect to certain areas, including information collection, records management, security, privacy, and information sharing. As explained earlier, to incorporate applicable IRM guidance into Agency operations, the EPA has established core IRM policies in its *EPA IRM Policy Manual*. The review program was then used to assess Agency progress in implementing those policies. (See reviews 90-1, 90-3, 90-8 and 90-9.)
- Accuracy, Completeness, and Reliability — Reviews 90-6 and 90-9 dealt with the accuracy, completeness, and reliability of data and records contained within Agency laboratory information systems and the Toxic Release Inventory System, respectively. In instances where problems were identified, corrective actions were initiated.
- 5-year Plan — In the mid-1980s, the Agency developed and began to implement a 5-year ADP modernization plan. The Agency has now developed a new 5-year plan for meeting its information technology needs, entitled *IRM Strategic Plan (1991-1995)*.

Federal Information Locator System

The Agency has policies for complying with the requirements of the Federal Information Locator System.

* * * * *

This chapter analyzed this year's contributions to the Federal IRM Review Program. Among the findings were:

- Eleven reviews were conducted this year, four of which were previously planned and seven which were added.
- Among the many reviews conducted were a study of hotlines, clearinghouses, and dockets; a review of the compatibility of data systems within the Office of Water; and a productivity review of the Toxic Release Inventory System (TRIS).
- Among the recommendations of the reviews was the development of Good Automated Laboratory Practices to guide and ensure the integrity of computer-resident data in laboratories.
- The Agency has remained in compliance with all provisions of the Paperwork Reduction Act §3506 during FY 1990.

The eleven reviews conducted this year were the result of an ambitious and highly successful IRM review program. Enormous benefits were derived in addressing government and Agency IRM priorities.

Chapter 4: FY 1991 Reviews

This chapter presents the Agency's plan for compliance with the FY 1991 Federal IRM Review Program. Provided in this chapter are the following:

- planned priorities and IRM goals for the Agency;
- reporting changes for next year; and
- planned reviews for FY 1991.

Planned Priorities and IRM Goals

In order to focus energies on the issues and concerns of greatest importance today, GSA and EPA have again identified government-wide and EPA priorities for FY 1991. These priorities and eight strategic IRM goals for the Agency are summarized in Figure 4 and described in the sections which follow.

Government-Wide Priorities

GSA has set seven government-wide priorities for the FY 1991 IRM review program, many of which are carried over from previous years:

- Major Information Systems— In view of the Federal government's substantial investment in major information systems, GSA is focusing special attention on those systems. Beginning in fiscal year 1991, GSA is asking agencies to review their major information systems. [See also the next section on reporting changes for FY 1991]
- Software Modernization— Many of the Federal government's application programs are outdated and in need of replacement or improvement. In their fiscal year 1991 reviews, GSA would like agencies to review their application programs from a "service delivery" standpoint. The reviews should determine whether present software is meeting agency needs and, if deficiencies exist, what improvements are necessary.

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Figure 4. FY 1991

PRIORITIES AND IRM GOALS.

*These priorities and
IRM goals will be the
focus of nine IRM
reviews during
FY 1991.*

FY 1991 PRIORITIES AND IRM GOALS	
GOVERNMENT-WIDE PRIORITIES	• Major information systems • Software modernization • Security/Privacy • Information management • Service to the citizen • Telecommunications • ADP management
EPA MISSION-BASED PRIORITIES	• Enforcement • Pollution prevention • Risk reduction • Ecosystem protection • Leadership the international environmental arena • Improved science and data management
IRM STRATEGIC GOALS	• Establish data integration tools and activities • Create and manage information systems supporting the environmental community • Establish a program to promote information sharing • Renew EPA's technology base to provide increased functionality and/or to reduce costs • Manage a data administration program to ensure the Agency's ability to use its data fully • Enhance productivity through the educated use of technology • Improve planning and communications to ensure effective deployment of information and technology • Provide quality service with proactive leadership as custodians of EPA information and systems

- Security/Privacy— Continuing with this priority from last year, GSA would like agencies to review the extent of implementation of their security plans, and in particular, of their efforts to provide security awareness and training. Additionally, all Federal agencies must operate in accordance with Public Law 100-503, the "Computer Matching and Privacy Protection Act of 1988." This law states that "No record which is contained in a system of records may be disclosed to a recipient agency or non-Federal agency for use in a computer matching program except pursuant of a written agreement between the source agency and the recipient agency or non-Federal agency." Agencies should review their compliance with this Act as part of their IRM review program.

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- Information Management— Continuing with this priority from last year, agencies are expected to emphasize the EDI (Electronic Data Interchange) process in their IRM review programs. Agencies should, for example, conduct EDI reviews to: (1) identify potential agency applications, (2) determine what agency strategies have been developed for using EDI, and (3) evaluate agency progress in adopting EDI.
- Service to the Citizen— Service providers in the private sector, in State and local governments, and in the European governmental community have significantly raised the level and quality of service provided to their customers and citizens by using information technology. Now, to maintain parity with rising citizen expectations, the Federal government is seeking to improve the quality of the Federal service it provides to them. To keep abreast of new and any future activity in this category, GSA would like agencies in fiscal year 1991 to begin placing emphasis on the quality and efficiency of delivery of service to citizens. Possible review areas could include: (1) citizen access to and use of personal, consumer and commercial information; (2) interactive processes such as citizen participation in governmental processes; and (3) direct service delivery to the public.
- Telecommunications— In fiscal year 1991, GSA would like agencies to devote a portion of the telecommunications reviews to data interchange within and among agencies. In particular, agencies should conduct reviews to determine whether Government Open System Interconnection Profile (GOSIP) standards are being implemented as required by FIPS PUB 146. Additionally, agencies should be conducting reviews to determine whether the Portable Operating Systems Interface for Computer Operating Environments (POSIX) standard is used in the acquisition and development of operating systems for computer systems in which application portability is required. POSIX is a non-mandatory standard set forth in FIPS PUB 151.
- ADP Management— In addressing ADP management in fiscal year 1991, GSA would like agencies to emphasize reviews that attempt to determine whether mechanisms are in place to satisfy the agency's regulatory and managerial responsibilities for the effective and efficient use of information technology. Agencies should, in particular, focus on: (1) Multiple Award Schedule Contracts (MASC), as governed by procedures in FIRMR 201-32.206; and (2)

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Access to information technology by users with disabilities, as mandated by the Rehabilitation Act of 1973 and reauthorized in 1986.

EPA Priorities

For FY 1991, the Agency has adopted the same Agency-specific priorities that it did for the previous reporting year. These top priorities are:

- enforcement;
- pollution prevention;
- risk reduction;
- ecosystem protection;
- leadership in the international environmental arena; and
- improved science and data management.

These priorities were described fully in Chapter 2 and will not be repeated here.

IRM Strategic Goals for 1991-1995

The Office of Information Resources Management recently completed its *IRM Strategic Plan (1991-1995)*. In this plan EPA identified eight strategic goals which will be the focus of IRM initiatives for the next four years. These goals are to:

1. *Establish data integration tools and activities.*

This goal is to be accomplished by providing seamless connectivity to EPA's hardware, software, and telecommunications capabilities; defining formats and protocols that facilitate the exchange and the meaning of environmental and laboratory data; designing, developing and implementing common user information access techniques for major EPA program systems; and incorporating data integration tools and activities into the IRM programs of the State and EPA Regional offices.

2. *Create and manage information systems supporting the environmental community.*

This goal can be met by developing and implementing a software engineering development program; developing an application tool kit; providing systems to ensure the

FY 1990 IRM REVIEW PROGRAM REPORT

accuracy, consistency, and efficiency of Agency laboratory networks; and developing improved national administrative control and program systems.

3. *Establish a program to promote information sharing.*

EPA plans to manage and deliver information and technology transfer for improved access and use of data needed by its own staff, the public, international environmental programs and organizations, and the States.

4. *Renew EPA's technology base to provide increased functionality and/or to reduce costs.*

To ensure that its technology base is responsive, affordable and manageable, EPA plans to assess the Agency's business needs; examine the direction of technology; procure selected technologies and capabilities; and implement technologies in an orderly manner and evaluate the results.

5. *Manage a data administration program to ensure the Agency's ability to use its data fully.*

With this program, EPA expects to define its information architecture to evaluate corporate or shared data needs; provide models, establish data standards, and promote common data management approaches for the management of program, administrative, and scientific data; and establish and manage a process for an effective data administration program.

6. *Enhance productivity through the educated use of technology.*

To achieve this goal, EPA plans to establish and manage training programs for IRM professional development; implement training programs for client communities which promote teamwork and information sharing; and provide tools and capabilities to improve the personal and organizational productivity and effectiveness of EPA staff.

7. *Improve planning and communications to ensure effective deployment of information and technology.*

The Agency's objectives are to develop and implement a cooperative process for IRM strategic planning on an annual

4: FY 1991 REVIEWS

basis; to develop an Agency-wide information architecture for program, administrative and scientific systems which includes Information Strategy Plans (ISPs), major acquisitions and maintenance; to engage in an active outreach to the environmental community through newsletters, IRM reports, etc.; and to evaluate and reorganize IRM management and communications networks.

8. *Provide quality service with proactive leadership as custodians of EPA information and systems.*

To achieve this goal, EPA must ensure the security of its information, systems, and ADP equipment; operate and maintain national systems at a high level of performance; and maintain and expand the library network to improve access to information.

Reporting Changes for FY 1991

In addition to changed priorities for the FY 1991 review program, GSA has also changed the type of reports submitted for major information systems and the categories of reviews. These changes, which EPA will adhere to, are described briefly below.

Reports on Major Information Systems

As mentioned previously, GSA is paying increased attention to the government's major information systems because of the enormous investment they represent. EPA's interpretation of the guidance from GSA concerning major information systems is that the intent is to track these development efforts against a "baseline" of costs and schedules in order to identify problems early. To do this, the Agency should:

1. Identify the Agency's major information systems and select the "most important, high dollar initiatives" for scrutiny by GSA;
2. For the selected systems, complete an Initial Major Information System Report which defines the initiative's baseline costs and schedule; [See format in Appendix C]

FY 1990 IRM REVIEW PROGRAM REPORT

3. For subsequent years, update the baseline information using the Annual Report on Major Information Systems; [See format in Appendix C]
4. Define a schedule (minimum once every three years) for conducting reviews of major information systems initiatives and reporting the findings in the annual report for the Federal IRM Review Program; and
5. As new major information system initiatives are defined, report the baseline information and review schedule to GSA during the appropriate fiscal year.

GSA is requiring EPA to report in the manner described above the baseline costs and schedule for the SCRIPS (Superfund Cost Recovery Image Processing System, formerly known as the Superfund Transactions Automated Retrieval System (STARS)) development effort. The Initial Major Information System Report on SCRIPS is given in Appendix D. EPA will report to GSA new information for this project on an annual basis, as required. In addition, EPA will conduct reviews as normal on this and other Agency major information systems *once every three years*. The FINDS and STORET modernization projects will begin baseline and review reporting next year; other systems will be defined in later submissions to GSA.

Classification of Reviews

In the past, agencies have been asked, in their synopses, to classify reviews as to type (e.g., Internal Control Review (A-123)), as well as category (e.g., Telecommunications). GSA has decided to reduce this scheme to a single list of categories as follows:

- | | |
|-----------------------------|-----------------------------|
| • Telecommunications | • Compliance with PRA §3506 |
| • End User Computer | • ADP Management |
| • Software Management | • Security/Privacy |
| • Software Modernization | • Records Management |
| • Information Management | • Internal Control (A-123) |
| • Electronic Filing | • Financial (A-127) |
| • Major Information Systems | • Service to the Citizen |
| • Other Information Systems | • Other |

Under this scheme, all reviews must be described in terms of one or more of the above categories. Care must be taken in distinguishing a major information system from other systems. Care must also be taken in categorizing Internal Control (A-123) and financial (A-127) reviews. The category must distinguish those reviews which are confined to verifying compliance with the OMB

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circulars from those which are information system reviews. EPA will update the synopsis data sheets to reflect these changes.

Summary of Planned Reviews

EPA has planned nine reviews for FY 1991. Table 3 describes briefly those reviews. Two reviews, 91-1 and 91-2, have been carried over from last year due to resource constraints. A more detailed description of each of the planned reviews is given in Appendix B. EPA is confident that the diversity of its FY 1991 review portfolio will enable the Agency to measure its progress in achieving the government-wide and EPA-specific priorities, as well as IRM strategic goals.

* * * * *

This chapter described EPA's plans for its FY 1991 IRM review program. Specifically, it described:

- the seven government-wide priorities set by GSA for FY 1991 (major information systems, software modernization, security/privacy, information management, service to the citizen, telecommunications, and ADP management);
- the six Agency mission-based priorities (enforcement, pollution prevention, risk reduction, ecosystem protection, leadership in the international environmental arena, and improved science and data management);
- the eight strategic IRM goals for the Agency, which includes establishing new data integration tools and renewing the Agency's technology base; and
- the nine planned reviews and reporting changes for FY 1991.

FY 1990 IRM REVIEW PROGRAM REPORT

Table 3.

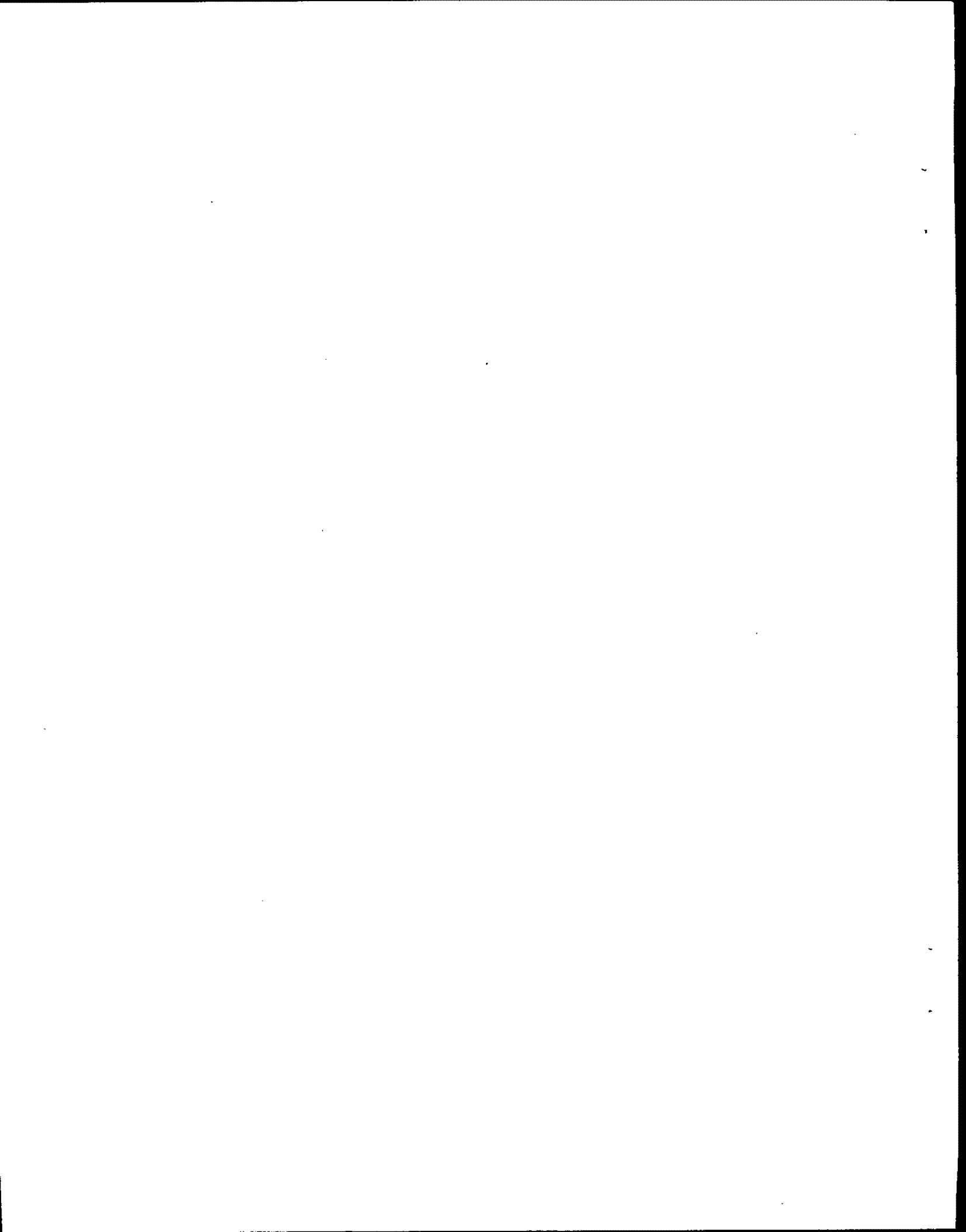
SUMMARY OF PLANNED REVIEWS FOR FY 1991

- 91-1 Information Collection Review — Improvements to the Hazardous Waste Manifest System** — This review is expected to enhance the ability of the State agencies and EPA to: (1) track interstate shipments of hazardous waste, (2) support RCRA information systems, and (3) establish a historic record of waste transfers for reference.
- 91-2 State/EPA Data Management Review** — This review will assess the progress of the Regions in meeting the objectives of the SEDM Program. It will be the basis for developing a comprehensive program strategy, including long and short-range goals and a formal national communications strategy.
- 91-3 Review of Superfund Document Management Initiatives** — This review is a follow-up to last year's review (90-3) and will: (1) assess training and interim records management activities; (2) suggest improvements to the dockets; (3) develop guidance for managing Superfund records; and continue with the development of the Superfund Document Management System.
- 91-4 Review of the IAS Concept** — This review will further refine the Integrated Administrative System (IAS) concept and its related components.
- 91-5 Review of the Modernization of FINDS** — This review will provide recommendations for enhancing the Facility INDEX System (FINDS) in order to implement the Facility Identification Data Standard and the Locational Data Policy and meet changing user requirements.
- 91-6 Review of Public Access Program Needs** — This review will assess and effectively communicate public access trends, activities, policies and procedures to EPA program managers. Also developed will be the necessary strategy for meeting public access legislative requirements and Agency goals.
- 91-7 Review of Strategic Architectural Issues** — This review will evaluate the Agency's strategic approach to 7 architectural issues: the LAN as an application platform, the use of SQL/RDBMS, IRM training, e-mail and document distribution, common user interfaces, AS/400 utilization, and LMF futures and Regional servers.
- 91-8 Review of the Modernization of STORET** — This review will analyze the STorage and RETrieval of Water Quality Information (STORET) and its related systems in order to establish the feasibility and preliminary cost estimates associated with modernizing (upgrading) the software.
- 91-9 Locational Accuracy Task Force Review** — The review will evaluate the benefits and costs of implementing minimum accuracy requirements for the Agency's locational (spatial) data.

Appendix A:

FY 1990 Review Synopses

- 90-1 Physical Security Reviews
- 90-2 Integrated Contracts Management System Study
- 90-3 Review of Records and Forms Management Programs
- 90-4 Review of Public Information Access Services
- 90-5 Telecommunications Evaluation
- 90-6 Review of Data Management Practices for Automated Laboratories
- 90-7 Evaluation of Electronic Forms
- 90-8 Office of Water Data Sharing and System Compatibility Study
- 90-9 Toxic Release Inventory Productivity Review
- 90-10 Superfund Document Management Review
- 90-11 Electronic Reporting Study



SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
 REVIEW TITLE Physical Security Reviews
 REVIEW NUMBER 90 - 1

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☒ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☐ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☐ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☐ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT ☒ SECURITY ☐ RECORDS MANAGEMENT ☐ OTHER _____ _____ _____ _____

APPENDIX A: 1990 REVIEWS

AGENCY: EPA

TITLE OF REVIEW: Physical Security Reviews

AGENCY REVIEW NUMBER: 90-1

OBJECTIVES OF REVIEW: The objective of conducting these reviews was to assess the adequacy of physical security controls; identify problem areas and present recommendations to remedy areas of potential vulnerability.

SYNOPSIS OF REVIEW: These reviews were conducted by EPA's National Computer Center (NCC) security staff. The reviews focused on policies and practices governing access to the NCC in RTP, N.C. and the Washington Information Center (WIC) in EPA Headquarters in Washington, D.C. Both facilities have data processing equipment which process information upon which the Agency relies to carry out program and administrative functions in a timely, efficient and accountable manner. Both of these installations are accessed by EPA employees as well as contractors employed by the Agency. Both have a high volume of traffic during the course of a typical day and continue operations after normal business hours. In addition to conducting on-site investigations at these facilities, the NCC security staff conducted their assessment by researching existing policies and procedures and interviewing managers and staff.

PRIMARY FINDINGS: Both reviews identified areas in which access controls could be strengthened to reduce the potential for security violations.

PROPOSED ACTIONS: The review team recommended a review by senior management of the list of personnel who are granted access to the NCC. They also recommended that access to the hallway containing water chillers and their cutoff valves should be more tightly restricted. In addition, the team recommended a simplification of the badge color scheme to enable operations staff to identify more quickly whether or not a person should be in a specific area.

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INITIATIVES AND ACTIONS:

At the NCC, water chillers and water cutoff valves have been secured from general access through inclusion in computer areas resulting from physical plant renovations.

New badge access request forms have been distributed along with rules and rationale to prepare the way for access limitations. Advance notice has been given to all managers that a review of access by their personnel will take place in accordance with the rules distributed to them. All personnel have been apprised through a memo issued by the Director of NDPD that badges will be displayed in computer areas at all times.

The review team has planned a follow-up visit to the WIC in December 1990, to assess the status of implementations of recommendations resulting from their review.

BENEFITS:

Without effective access control over its computing facilities, the Agency is vulnerable to damage caused by malicious actions such as theft or data sabotage. These reviews identified areas where management could take action to reduce the potential for security violations.

This review is in direct support of the government-wide priority of ADP security. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; complying with EPA goals, policies, plans, and strategies; securing sensitive documents; and emphasizing government-wide priorities.

AGENCY CONTACT AND PHONE NO.:

Charles Conger, FTS 629-0613.

SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Integrated Contracts Management System Study
REVIEW NUMBER 90 - 2

TYPE OF REVIEW

CATEGORY OF REVIEW

- | | |
|---|---|
| ☒ IRM | ☐ TELECOMMUNICATIONS |
| ☐ INTERNAL CONTROL REVIEW
(A-123) | ☒ END USER COMPUTING |
| ☐ VULNERABILITY ASSESSMENT
(A-123) | ☐ SOFTWARE MANAGEMENT |
| ☐ INSPECTOR GENERAL AUDIT | ☒ INFORMATION
MANAGEMENT |
| ☐ SECURITY (A-130) | ☒ ELECTRONIC FILING |
| ☐ PERFORMANCE OF
COMMERCIAL ACTIVITIES
(A-76 REVIEW) | ☒ MAJOR INFORMATION
SYSTEMS |
| ☐ FINANCIAL (A-127) | ☒ COMPLIANCE WITH PRA
SECTION 3506 |
| ☐ OTHER _____

_____ | ☐ ADP MANAGEMENT |
| | ☐ SECURITY |
| | ☒ RECORDS MANAGEMENT |
| | ☐ OTHER _____

_____ |

FY 1990 IRM REVIEW PROGRAM REPORT

AGENCY: EPA

TITLE OF REVIEW: Integrated Contracts Management System (ICMS) Study

AGENCY REVIEW NUMBER: 90-2

OBJECTIVES OF REVIEW:

EPA chose to investigate the possible development of a national contracts management system because such a system would offer great potential efficiency and effectiveness in the administration and management of Agency dollars. The ability to manage, control and analyze procurement information is an important function for EPA personnel, as EPA currently awards over one billion in contract dollars each fiscal year.

The first step of the study, the Mission Needs Analysis and Initial System Concept, was conducted to assess the extent of the need for a system to manage the procurement process and to establish exactly what would be required of such a system if it is needed. This review also evaluated whether all procurement functions should be incorporated into one system or whether multiple systems are needed. The objectives were to (1) determine the strengths and weaknesses of the current operating environment, (2) identify current and potential system users, (3) identify the various needs for and benefits of a procurement system, and (4) identify input, processing, and output requirements for a new system.

The second phase of the study, the ICMS Preliminary Requirements and Options Analysis had three objectives:

- To identify preliminary system requirements to be used as evaluation criteria during the options analysis;
- To develop a range of feasible development options; and
- To assess the pros and cons of each option in order to determine which optimizes benefits, reduces risks, and meets user requirements.

Both steps in the analysis followed the policies and procedures prescribed for major Agency/widely accessed information systems in EPA's *System Design & Development Guidance*.

APPENDIX A: 1990 REVIEWS

SYNOPSIS OF REVIEW:

This review was conducted by EPA's Procurement and Contracts Management Division (PCMD) and OIRM's Administrative Systems Division (ASD) with contractor assistance. The primary bases for data collection were document review, research, and interviews with key officials, managers and staff involved in the procurement processes. The interviews were conducted to assess the need for improved and integrated procurement management systems. Specific needs and benefits of the system were addressed, as were some of the requirements for the system. Applicable FAR and OMB documents were researched to develop an understanding of the contract regulations and guidance currently enforced by the Federal Government and, specifically, the EPA.

The ICMS preliminary requirements and options analysis was conducted in four steps:

- Outline modular approach — The applications identified were grouped together into functional subcomponents or modules of an ICMS. Modules were created so that development efforts, if necessary, could be completed in phases.
- Define preliminary requirements — The information and functional preliminary requirements of each potential application of ICMS were identified.
- Define options — The development options for the ICMS were identified and described on a macro-level. The options will be fully developed after detailed requirements are analyzed by ASD and PCMD.
- Assess options — The advantages and disadvantages of the development options were addressed. Each option was evaluated to determine how well functional requirements were satisfied.

PRIMARY FINDINGS:

The Agency has a critical interest in developing and implementing an integrated procurement management system:

- EPA has experienced tremendous growth in the dollar value and complexity of contracts awarded in the last few years.

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This has resulted in the need to capture, store, and retrieve massive amounts of data.

- As the public's and the Administration's concern for the Agency's mission has grown, so too has the interest in EPA's procurement and contract activities. This information frequently is not available or is difficult and time consuming to obtain.
- Though the demands for information and data concerning procurements and contracts have increased significantly, personnel resources have not kept pace.
- The current execution of procurement and contract management functions involve at least 12 different systems, as well as a variety of manual processes and systems. Many of these systems are operating on hardware which is near the end of its useful and economic life cycle. The design of these systems and the software used hinder the effective exchange of data and information.
- The Agency-wide processes to support small purchases are predominantly labor intensive, manual procedures. These procedures are characterized as slow, paper-bound, prone-to-error, non-responsive to users' immediate needs, and inherently inefficient.
- Various systems have been initiated and implemented over the years to improve the small purchasing process and responsiveness to user needs. Small purchasing is essentially a manual process in the Regions, while Headquarters have developed automated systems which vary in sophistication, functionality, and compatibility with other systems.
- The Government Bankcard Program was instituted within the Agency to increase the systems' responsiveness. Due to the current limitations on the Bankcard, however, the impact on the small purchasing system has been negligible.
- In order to deal with the paper and forms administrative bottlenecks of the current system, several Headquarters and Regional offices have created electronic forms. This further reflects the frustration of users with the current small purchase processes.

APPENDIX A: 1990 REVIEWS

PROPOSED ACTIONS:

The mission needs analysis demonstrated that there is an urgent need for a system which will provide comprehensive procurement and contract management life-cycle support from acquisition initiation through contract close-out.

The analysis also recommended that the current systems be consolidated into two systems: the Integrated Contracts Management System (ICMS) and the National Small Purchasing System (NSPS). ICMS would be a procurement and contract management system to effectively support the acquisition, administration, work assignment monitoring, contract payment, procurement/contract budgeting and accounting activities, and contract management functions of Headquarters staff, Regions, and Laboratories. NSPS would be a small purchasing system which would effectively support the activities of personnel and organizations involved with procurements of less than \$25,000.

Senior OARM management considered ICMS and NSPS as two distinct and separate development projects. Although they both support the procurement process, significant differences exist between them. Typically, management cited the following reasons for separately evaluating the two systems:

- NSPS and ICMS are not interdependent systems;
- Development of ICMS is critical for EPA because of the great volume of Agency contract dollars managed;
- Oversight organizations and individuals are focused on accountability of contract dollars and contract performance; and
- Impact and implementation of the Bankcard initiative on the needs for a small purchasing system may be significant.

The ICMS was conceptualized to be a life-cycle contract management system and database linking tool. It would be an Agency-wide, administrative system involving EPA users throughout the nation. Depth and breadth of database access, as well as type of end-user capabilities, would depend on the individual's functional requirements. The initial system concept

FY 1990 IRM REVIEW PROGRAM REPORT

for ICMS recommended that it cover the following functional areas: finance, pre-award, management and policy, post-award, and personnel. It was also recommended that the ICMS be composed of 6 modules: system administration, contract management (post-award), pre-award management, human resources management, contract information retrieval, and contract or vendor management.

The feasibility and pros and cons of four system development options were considered for the ICMS:

- EPA could continue to improve the individual components of existing systems. The implementation costs of this option would be low, but the Agency would not benefit from the integration of systems.
- EPA could improve the functionality of individual components with increased interfacing. This fragmented approach would require redundant interfaces and achieve limited integration.
- An ICMS could be developed in phases by module. This approach will require fewer committed resources but a longer development timeframe.
- All six ICMS modules could be developed simultaneously. This approach would require extensive resources and coordination, but development could be completed in a relatively short timeframe.

The last option addresses all user requirements and was recommended for the development of the ICMS.

INITIATIVES AND ACTIONS:

The general project management plan has been completed. The next steps for the project are to complete the detailed system requirements analysis and perform detailed design and prototyping for the ICMS.

BENEFITS:

A large portion of EPA's mission to protect human health and the environment is supported through the use of contracts which are growing in size and complexity and are coming under increasing Government and public scrutiny. As part of the overall Integrated Administrative Systems (IAS) concept, ICMS will streamline and integrate contract management functions. More specifically, ICMS will improve responsiveness,

APPENDIX A: 1990 REVIEWS

accountability and efficiency of the contracting function throughout the Agency. The major benefits will accrue in the following areas:

- Contracts administration, management and analysis;
- Responsiveness to end users (contracting officers, project officers, work assignment managers, etc.);
- Management information (internal and external);
- Evaluation of contractor performance;
- Integration with other administrative systems; and
- Management of organizational conflict of interest.

This review is in direct support of the government-wide priorities of information management, ADP security, and major information systems. It also supports the Agency IRM initiatives of data sharing and integration and improved records management. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; complying with EPA goals, policies, plans, and strategies; integrating information systems across media, functional, and program lines; securing sensitive documents; minimizing duplication of information systems; emphasizing government-wide priorities; and promoting productive use of human resources.

AGENCY CONTACT AND PHONE NO.:

Tim Farris, (202) 382-3214 and Jack Johnson, (202) 382-2886.

SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Review of Records and Forms Management Programs
REVIEW NUMBER 90 - 3

TYPE OF REVIEW

- ☒ IRM
- ☐ INTERNAL CONTROL REVIEW
(A-123)
- ☐ VULNERABILITY ASSESSMENT
(A-123)
- ☐ INSPECTOR GENERAL AUDIT
- ☐ SECURITY (A-130)
- ☐ PERFORMANCE OF
COMMERCIAL ACTIVITIES
(A-76 REVIEW)
- ☐ FINANCIAL (A-127)
- ☐ OTHER _____

CATEGORY OF REVIEW

- ☐ TELECOMMUNICATIONS
- ☒ END USER COMPUTING
- ☐ SOFTWARE MANAGEMENT
- ☒ INFORMATION
MANAGEMENT
- ☐ ELECTRONIC FILING
- ☐ MAJOR INFORMATION
SYSTEMS
- ☒ COMPLIANCE WITH PRA
SECTION 3506
- ☐ ADP MANAGEMENT
- ☒ SECURITY
- ☒ RECORDS MANAGEMENT
- ☐ OTHER _____

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AGENCY: EPA

TITLE OF
REVIEW: Review of Records and Forms Management Programs

AGENCY REVIEW
NUMBER: 90-3

OBJECTIVES OF
REVIEW: The intent of this review was to provide a comprehensive evaluation of records and forms management programs in EPA Headquarters offices. The analysis yielded three reports which helped to define the future office environment for EPA staff from an administrative perspective. They were the *Office of the Future Concept*, *Technology Assessment and Technology Impact Reports*, and the *Evaluation of Records and Forms Management*.

The purpose of the Office of the Future project was to assess and evaluate the opportunities for utilizing technology in the future office environment to improve productivity and efficiency in administrative activities. The technology assessment and technology impact studies reviewed the hardware, software, and standards that will be required to implement the Office of the Future concept. It also examined the impact of the introduction of new technologies into the EPA environment from the perspectives of facilities, management, and human factors. These studies provided the parameters for the final evaluation. The purpose of the evaluation of records and forms management was to assess the present role of EPA's Information Management and Services Division (IMSD) in records and forms management and to make recommendations regarding its future role in these areas.

SYNOPSIS OF
REVIEW: This review was conducted by OIRM with contractor assistance. The review began with an evaluation of opportunities for the use of technology to assist in common administrative operations in the office. Then, for select work processes, a comprehensive analysis was conducted of (1) the types of administrative activities which are commonly performed in offices throughout the agency, and (2) the information sharing requirements involved in completing those activities. Six administrative work processes were selected for analysis: travel, controlled correspondence, budget preparation, purchase requisition, payroll, and personnel. Analysis of these work processes

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provided a thorough understanding of the EPA work environment.

The primary methods used to collect data for the evaluation of records and forms management were interviews with key EPA records and forms staff and documentation reviews. The mission and responsibilities involved with records and forms management were analyzed from several different perspectives:

- Current mission, responsibilities, and structure;
- Requirements of records and forms management in the Office of the Future;
- Conclusions drawn from the analysis of the current and future environments;
- Implications for the Agency of these conclusions; and
- Recommendations for IMSD's role and responsibilities to meet current and future needs.

The current environment was shown through a discussion of the different roles and responsibilities for those offices involved with records and forms. In order to provide a framework for analyzing the responsibilities, the life-cycle stages of both records and forms were defined from a management perspective.

PRIMARY FINDINGS:

The technology assessment identified recent Agency trends that have started to increase the need for IMSD leadership in records and forms management:

- The Office of the Future will require IMSD to develop capabilities for electronic routing of forms and image processing systems (IPS) for storing and retrieving records, etc.;
- The focus of the enforcement program has shifted toward additional attention to cost recovery, increasing the importance of data availability; and
- EPA is emphasizing cross-media exchange of information to accomplish Agency goals, underscoring the importance of data integration.

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Analysis of the current records and forms mission and the delegation of responsibilities within EPA in the context of the Office of the Future environment also led to the identification of weaknesses which exist within IMSD's current records and forms management environment, as well as issues which IMSD should consider when planning its role in records and forms management in the future. The following are those weaknesses and their impacts:

- Technical and policy support for forms management is not sufficiently proactive or up-to-date to allow the Agency to take advantage of advanced technologies. Currently, forms designs are inefficient and inconsistent among offices. Also, users tend to choose paper over electronic forms without sufficient training.
- Strong leadership and national coordination in the development of policies, standards, and applications is needed to ensure successful implementation of electronic forms technology. Without such leadership, the Agency will continue to foster the development of duplicative, non-standardized and expensive initiatives.
- Overall administrative management of the forms clearance, printing, stocking, and distribution process is time consuming and inefficient. As a result, obsolete or expired forms may be used and subject to a challenge if used in court.
- There is a lack of sufficient records management guidance and training in applying the technologies of the Office of the Future. This results in the procurement of incompatible hardware and software and variations in data availability.
- Records are not managed consistently throughout the Agency, hindering efficient management and integration of information. For example, the implementation of an image processing system will be complicated by the Agency's diverse, existing records management practices.
- Records disposition schedules are inefficient and incompatible with file structures, making it difficult to expand to meet the needs of electronic records in the Office of the Future. In particular, records management staff spend

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excessive amounts of time trying to understand where files fit into the disposition schedule.

PROPOSED ACTIONS:

The following recommendations will aid IMSD in defining its mission and responsibilities with regard to records and forms management in the Office of the Future. IMSD's records and forms management responsibilities fall into three main support categories: technical, administrative, and regulatory/policy. The emphasis placed on each of these categories differs, and those emphases need to be altered in the Office of the Future.

- To minimize the amount of time which IMSD must spend on administrative support in the future, administrative activities need to be streamlined. This can be accomplished by developing automated systems and revamping disposition schedules.
- IMSD needs to assume a stronger technical support role to encourage efficient records and forms management in the Office of the Future. This aim can be accomplished through developing and providing training courses, expanding contract vehicles to provide technical support, and providing technical guidance in records and forms management, as well as specific guidance for evaluating and implementing technology in these areas.
- To support the Office of the Future environment, IMSD will need to take a more proactive role in developing records and forms management policies to promote standardization. This goal can be accomplished through developing policies to support electronic forms technology and to guide electronic recordkeeping.

To implement the three recommendations listed above and to meet its changing support roles, IMSD will need to consider a reorganization or a reallocation of its present resources. When assessing possible reorganization/reallocation alternatives, IMSD will need to integrate many of the responsibilities of IMSD records and forms management staff and also increase coordination between staff members who have responsibilities in the areas of records and forms management, data standards and systems development to ensure effective implementation of recommendations.

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INITIATIVES AND ACTIONS:

The Agency has already begun to revamp its records disposition schedules. Specifically, four actions are underway:

1. Drafting new policy and procedures for creating, reviewing, and approving schedules — This includes a new inventory sheet, inventory procedures, and procedures for obtaining concurrence.
2. Developing an automated system for records disposition schedules — EPA is preparing to identify necessary data elements, conduct a mission needs analysis, and select a system. An automated system will serve as the repository of information about schedule items and the records they cover, provide custom outputs to meet varying needs of users, and provide an electronic format for distributing the schedules that will allow programs to expand and customize the schedule to fit their own needs. A basic prerequisite for the system is that it must allow for the addition of modules to automate other records management functions.
3. Revising records schedules — The revisions will proceed on three fronts: revision of the Superfund schedule as part of the Review of Superfund Document Management Initiatives (see 91-3); revision of the Regional schedules by the Regional offices; and identification of records retention requirements for the systems listed in the ISI.
4. Making the current schedules easier to use — This includes the following initiatives: compiling an index to the current schedules, producing guidance on the application of particular schedule items, and easing the way for records to be retired to the Federal records centers.

BENEFITS:

Review findings and recommendations will provide the basis for the preparation of a new OIRM strategic records and forms management plan for FY 1991-1995. The Office of the Future Concept will provide the Agency with a common/consistent vision of how to automate work processes.

This review is in direct support of the government-wide priorities of information management and ADP security. It also supports the Agency IRM initiatives of data sharing and integration, standards, improved records management, information technology acquisitions, and electronic data reporting.

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Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying with EPA goals, policies, plans, and strategies; integrating information systems across media, functional, and program lines; securing sensitive documents; minimizing duplication of information systems; providing effective ADP and telecommunications resources and facilities; emphasizing government-wide priorities; and promoting productive use of human resources.

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Review of Public Information Access Services
REVIEW NUMBER 90 - 4

TYPE OF REVIEW

- ☒ IRM
- ☐ INTERNAL CONTROL REVIEW
(A-123)
- ☐ VULNERABILITY ASSESSMENT
(A-123)
- ☐ INSPECTOR GENERAL AUDIT
- ☐ SECURITY (A-130)
- ☐ PERFORMANCE OF
COMMERCIAL ACTIVITIES
(A-76 REVIEW)
- ☐ FINANCIAL (A-127)
- ☐ OTHER _____

CATEGORY OF REVIEW

- ☒ TELECOMMUNICATIONS
- ☐ END USER COMPUTING
- ☐ SOFTWARE MANAGEMENT
- ☒ INFORMATION
MANAGEMENT
- ☐ ELECTRONIC FILING
- ☐ MAJOR INFORMATION
SYSTEMS
- ☒ COMPLIANCE WITH PRA
SECTION 3506
- ☐ ADP MANAGEMENT
- ☒ SECURITY
- ☒ RECORDS MANAGEMENT
- ☐ OTHER _____

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AGENCY: EPA

TITLE OF REVIEW: Review of Public Information Access Services

AGENCY REVIEW NUMBER: 90-4

OBJECTIVES OF REVIEW:

EPA is experiencing an increased demand by the public for information. In addition, legislative requirements to disseminate information to the public have increased pressure upon EPA to augment services for information access and dissemination. This review evaluated the efficiency and effectiveness of the four major systems and services currently used by EPA to facilitate information access by the public. These are:

- (1) Clearinghouses — consolidated reference sources on subject-specific information providing reference and referrals;
- (2) Electronic bulletin boards — a means of posting information for electronic access;
- (3) Dockets — official legal files of rule-making actions; and
- (4) Hotlines — a point of contact for external parties to ask technical or general questions.

SYNOPSIS OF REVIEW:

The review, performed by OIRM with contractor assistance, was conducted in three phases. Phase I evaluated current systems and services by reviewing existing documentation and conducting management interviews. Phase II surveyed state-of-the-art technology and methodology for public access by reviewing the practices of other agencies and researching technology trends and initiatives. Phase III developed a model for service delivery, presented operational recommendations, and formulated an implementation plan.

PRIMARY FINDINGS:

The following are the key conclusions of Phase I:

- The general public is not a primary user of these services;

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- Information access is hampered by lack of coordination and cross-reference tools;
- Potential audiences are limited somewhat by physical characteristics of the service and method of accessing;
- Most services ensure some degree of security and integrity;
- Services do not adequately address liability issues;
- Informality of the collection process does not assure that current, reliable information is obtained;
- Automation does not currently play a significant role in the services provided;
- Lack of policy guidance and standard operating procedures has led to inconsistencies in information distribution; and
- OIRM has not established a leadership role or policy for sharing information with external parties.

Phase II of the review surveyed the information management practices of the Agency for International Development (AID), the Department of Commerce (DOC), the Department of Energy (DOE), the National Aeronautics and Space Administration (NASA), and the Department of Agriculture (USDA). The review found that other Federal agencies have managed to avoid or overcome some of the obstacles discovered in Phase I; for example, information access may be facilitated by the use of centralized databases and established networks to exchange information with international parties. It also documented some trends in technology which provide opportunities for improved access and dissemination of information, such as:

- Adoption of standards which promote integration and data exchange through common formats and data elements;
- Improved access and retrieval of information through the use of knowledge-based software;
- Integration of voice, data, and image transmissions with FTS 2000; and

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- Integration of image processing systems (both microform and optical technologies) with existing information systems.

PROPOSED ACTIONS:

The report for Phase III of the review presented management and operations models for improving information access and dissemination.

The management model emphasized that OIRM should take an active leadership role in providing information delivery systems that ensure efficient and effective sharing of technical information with the public. To do so, OIRM must:

- Develop policies and procedures, including an Agency-wide document numbering system and a mechanism for collecting documents in a central repository;
- Develop a standardized storage and access mechanism and a standardized distribution system;
- Improve the consistency of access and quality of information through use of a single referral source and an automated listing of EPA information sources;
- Improve the Agency's understanding of present and potential users' needs and the most effective outreach and feedback mechanisms;
- Improve coordination and efficient use of Agency resources through forums, training, and work groups; and
- Establish partnerships within EPA, especially with the Office of External Affairs and the Office of General Counsel, and with other Federal agency groups using Resource Support Service Agreements to promote the sharing of technical data.

Two operational models were recommended to improve the Agency's information access and dissemination capabilities:

- The clearinghouse model proposes the use of the Public Information Center and hotlines to facilitate access to information. It would also use a standard thesaurus and allow users to order documents on-line.

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- The docket model proposes an automated index to all rule-making information. In the future, the dockets would be expanded to the Regions and States.

In both models, the information is centralized and access is coordinated and controlled for accuracy.

The review also recommended a pilot study to evaluate the effectiveness and viability of the models. Conducted in two phases, the study would first review requirements, standards and feasibility and then convert documents to electronic media and implement the automated tools for providing access.

INITIATIVES AND ACTIONS:

In FY 1991, OIRM is planning a review (91-6) which is intended to assess and effectively communicate public access trends, activities, policies and procedures to EPA program managers. The study will result in the improved ability of EPA to fulfill its mission of providing environmental information to the public. It will build on the information documented in this review.

BENEFITS:

The benefit of the review is that it highlighted weaknesses in current information management practices and recommended several improvements in information service delivery both within and outside of the Agency.

This review is in direct support of the government-wide priorities of telecommunications, information management, and ADP security. It also supports the Agency IRM initiatives of data sharing and integration, standards, improved records management, and public dissemination. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying with EPA goals, policies, plans, and strategies; securing sensitive documents; minimizing duplication of information systems; promoting data sharing; providing effective ADP and telecommunications resources and facilities; emphasizing government-wide priorities; and promoting productive use of human resources.

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Telecommunications Evaluation
REVIEW NUMBER 90 - 5

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☒ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☐ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☐ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☐ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT
	☐ SECURITY
	☐ RECORDS MANAGEMENT
	☐ OTHER _____ _____ _____ _____

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AGENCY: EPA

TITLE OF REVIEW: Telecommunications Evaluation

AGENCY REVIEW NUMBER: 90-5

OBJECTIVES OF REVIEW: EPA National Data Processing Division (NDPD) anticipates an ever increasing demand for telecommunications services in 1995 and beyond. Satisfying the potential demand in an effective non-disruptive manner is the key to successful planning. EPA's Telecommunications Vision for 1995 began as a process that anticipated future requirements, identified technical solutions, and developed a network evolution plan. The vision will be revised annually to update the five year perspective.

The purpose of this review was to identify the available suite of data communications services in 1995 to satisfy mission-based and administrative requirements. Also identified were the technological and financial factors that will influence the types of services and their availability. Having identified these items, the report then recommended an orderly implementation schedule to create the network that satisfies the "VISION for Telecommunications."

SYNOPSIS OF REVIEW: In the 1980s, EPA modernized its telecommunications network to replace batch systems with on-line systems and replace line mode terminals with full screen display terminals. The modernization effort produced many tangible benefits including improved productivity, data collection, and information retrieval.

A new modernization plan is emerging for the 1990s. The proliferation of intelligent devices and the availability of discretionary computing and data storage sources generates data transmission requirements that the 1980s network cannot accommodate. Image transfer, video, document interchange, and other applications generate the additional data traffic that necessitates modernization.

The review, conducted by NDPD with contractor assistance, evaluated hardware, software, and support services necessary to achieve modernization objectives.

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PRIMARY FINDINGS:

In 1995, the network will support a combination of traditional and new services. Many of the existing host connection services for ASCII VDTs, RJE's, and 3270 devices communication will still be present. Likewise, host-to-host services, (i.e., DEC-to-DEC), EMAIL, BDT, and micro-mainframe services will be available, although perhaps in a somewhat different format.

New network services, including those exclusive to host processors, are integrated into the EPA networks. Slowly but steadily, the emphasis of these services will shift from host connectivity to information delivery. Network services, as a result, must expand dramatically to accommodate document distribution, file transfer, national extended LAN, electronic mail and messaging, directory services, video conferencing, image distribution, off-site LAN access, and application peer communications. Other services will be available on a limited basis, including co-operative processing, electronic conferencing, VSAT services, electronic distribution services, inter-agency connection services, and State LAN connections.

Additional findings of this evaluation include the following:

- Although reliable data communication services have always been important, in the 1990s, it will become imperative. Computing and telecommunications will be integrated further into the workers' basic job functions, creating a communication dependency that may have no substitutions. Electronic imaging and electronic document distribution, for example, will circumvent the need to photocopy originals and distribute paper copies. When electronic distribution methods displace paper distribution methods, the network must become extremely reliable.
- Technological advancements will dramatically increase the number of telecommunications services and their potential transmission capabilities. At the same time, costs for these powerful and flexible services will decrease dramatically as fiber and computer technology continue to improve. As a result, while Agency services may increase tenfold from now until 1995, their corresponding costs do not increase proportionally.

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- The infusion of special purpose processing devices, LAN servers, scientific workstations and image processors for example, compound the problem of integrating data located on diverse computing systems. A mixed environment of state computer systems further magnifies the problems which inhibit data integration. The requirement to integrate data, internal and external, necessitates the adoption of standard application and data communication techniques. Of these standards, OSI and IBM's SAA embraced protocols appear to be most advantageous to the Agency.
- Standards development and acceptance is a political process. As such, it can be fiercely competitive and very slow, sometimes taking four or more years to complete. Technological advances, however, are emerging daily, thereby creating a service availability/standards gap which forces tough decisions concerning non-standard implementations.
- By 1995, existing and emerging standards for telecommunications hardware and transmission services will be well defined and available in off-the-shelf products. IEEE 802.3, IEEE 802.5, IEEE 802.6, FDDI, ISDN, T3 and other accepted standards make it possible for vendors to offer expansive transmissions bandwidth for local and wide-area networks. EPA will use the high bandwidth services to support image, video, graphics, and Extended-LAN requirements. Standard network protocols, LU 6.2, SNA, X.25, GOSIP, OSI LAN routing, and ISDN, for example, provide the connections needed to support the various Agency terminal and processing platforms.
- While transmission service options abound because hardware standards are widely accepted, software standards do not have similar universal acceptance. As vendors increasingly distinguish their products through software capabilities, they are reluctant to adopt standards that mitigate their competitive advantage.
- The combination of existing and new services will produce many tangible benefits for the EPA including:
 - Work-at-home support programs;
 - Network-wide data access and data exchange;
 - Worker-to-worker data and document exchange;

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- Workgroup problem solving and consensus building;
- Visual presentations of complex analytical results;
- High network availability; and
- Responsive transaction and file processing.

PROPOSED ACTIONS:

A network modernization program should occur from 1990 through 1995. As part of that modernization program, the Agency should implement new hardware, software, network management, and transmission services. Among the changes necessary to achieve the network vision are:

- Because of the investment expense and expertise needed to perform comprehensive network management, network management should be conducted by contractors specializing in network management.
- Multi-vendor network management integration will be a problem. One potential solution could be OSI network management standards, but since that will be a time-consuming process, proprietary, expert system-driven network management systems could be used as vital management tools throughout the near future.
- So that neither users nor implementors are overwhelmed by massive change, new hardware and software should be introduced in stages. For example:
 - Upgrade the Agency's local and wide area highways to accommodate the large volume of traffic generated by applications such as scientific visualization, image, and video conferencing.
 - Special purpose networks, extended-LAN, video and image processing networks could be built on top of the transmission plant foundation. New network services, including file transfer, document transfer, and cooperative processing would utilize new and existing networks to deliver these functions to the EPA network users.
 - User demand and commercial product availability should guide service delivery. For instance, on-line image services could begin initial deployment in 1991, with wide spread use occurring in 1993.

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INITIATIVES AND ACTIONS:

Implementation schedules have already been developed for the recommendations stated previously. The schedule will be influenced by a variety of factors including standards development, pricing, product maturity, service demand, and budgetary constraints. The schedule consists of five phases of acquisition and implementation based upon today's understanding of technology viability and service demands. They are as follows:

- Study — white paper analysis of technology;
- Evaluate — marketplace survey, alternatives and impact analysis;
- Procure — procurement activities and contract(s) award;
- Implement — Phase 1 implementation, testing, and functional validation; and
- Support and Update — full implementation and ongoing support.

Once the five year implementation schedule has been approved by EPA management, it will guide future planning and budget activities in years 1992-1994.

BENEFITS:

This review is in direct support of the government-wide priorities of telecommunications and ADP management. It also supports the Agency IRM initiatives of standards and information technology acquisitions. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying with EPA goals, policies, plans, and strategies; promoting data sharing; providing effective ADP and telecommunications resources and facilities; and emphasizing government-wide priorities.

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency

REVIEW TITLE Review of Data Management Practices for Automated Labs

REVIEW NUMBER 90 - 6

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☐ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☐ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☒ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☐ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT
	☒ SECURITY
	☒ RECORDS MANAGEMENT
	☐ OTHER _____ _____ _____ _____

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AGENCY: EPA

TITLE OF REVIEW: Review of Data Management Practices for Automated Laboratories

AGENCY REVIEW NUMBER: 90-6

OBJECTIVES OF REVIEW:

EPA depends heavily on laboratory data to reach decisions on public health and the environment. The accuracy and integrity of these data are fundamental to reaching the right decisions. As a result, several EPA programs have adopted and require laboratories to follow Good Laboratory Practices (GLPs) thereby assuring that laboratory-generated data are accurate and have integrity. EPA has well-developed procedures and practices to assess if manual operations in laboratories comply with the Agency's GLPs.

However, the computer is increasingly replacing many manual operations in the laboratory. It manages operations, interfaces with laboratory equipment, and generates scientific/technical reports. EPA lacks Agency-wide standards to guide laboratories as they replace manual operations with computer technology. Similarly, the Agency has no definitive guidelines to aid the Agency's auditors and inspectors when they inspect laboratories that use computer technology.

These concerns prompted EPA to determine if there is a definitive need for standards for automated laboratory operations. As a result, EPA initiated a review of laboratories that rely on computer systems to develop environmental data for EPA. This review quickly expanded to examine how non-environmental operations assure reliability of computer-resident data.

SYNOPSIS OF REVIEW:

EPA's Office of Information Resources Management (OIRM) initially examined current automated laboratory practices and procedures in both the Superfund Contract Laboratory Program (CLP) and its Regional Office laboratories. OIRM conducted a detailed survey of automated laboratories and visited five laboratories to evaluate, first-hand, the data management practices employed to protect data integrity. The findings are

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presented in *Automated Laboratory Standards: Current Automated Laboratory Data Management Practices (June 1990)*.

These findings prompted the need for further review in several areas.

The first research project reviewed EPA's Good Laboratory Practices and examined their applicability to automated laboratory operations. These findings are presented in *Automated Laboratory Standards: Good Laboratory Practices for EPA Programs (June 1990)*.

The second project surveyed vendors of laboratory information management systems (LIMS) and researched state-of-the-art automated technology. This project determined if there is an off-the-shelf product that can guarantee integrity of computer-resident data. *Automated Laboratory Standards: Survey of Current Automated Technology (June 1990)* describes the findings of this survey.

The third project examined how automated financial systems assure the integrity of computer-resident data. The findings of this study are presented in *Automated Laboratory Standards: Evaluation of the Use of Automated Financial System Procedures (June 1990)*.

The fourth project surveyed standards employed by automated clinical laboratories. *Automated Laboratory Standards: Evaluation of the Standards and Procedures Used in Automated Clinical Laboratories (May 1990)* details the findings from this survey.

PRIMARY FINDINGS:

The integrity of computer-resident data is at risk in many laboratories providing scientific and technical data to EPA. Serious gaps in system security, data validation, and documentation are responsible for this risk.

Commercial laboratory staff unanimously expressed need for guidance in protecting the integrity of computer-resident data. The laboratories uniformly supported the idea of having a single source of guidance for automated operations.

In fact, commercial laboratory staff members frequently expressed frustration with their unsuccessful efforts to obtain

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guidance from EPA. They were told that no written guidance was available and often received no definitive response when they raised specific questions.

Where EPA's Good Laboratory Practice (GLP) requirements apply, they also apply to computer operations used in the conduct of a study. Thus, an autonomous quality assurance unit must periodically inspect the computer operations and document their inspection and its results.

No vendors of laboratory information management systems currently offer computer software that meet all the requirements of EPA's GLPs; and no computer hardware technology currently exists that will assure data integrity.

The main sources of risk to data integrity in automated financial systems also exist in automated laboratory systems; financial systems use time-proven controls that significantly reduce these risks.

Clinical laboratories, particularly those doing forensic drug testing, view security as their top priority to assuring data integrity. They use numerous intensive control methods to protect security in their automated operations.

PROPOSED ACTIONS:

Data management procedures should be standardized in laboratories supporting EPA programs and the Agency should assume responsibility for establishing these standards.

Standardized data management procedures for automated laboratory operations should comply with the requirements of EPA's Good Laboratory Practices (GLP).

Novel technology, such as the use of bar coding, can be useful in automating laboratory operations. This technology can minimize errors in sample identification and other functions.

Risks to data integrity in automated laboratory operations may be reduced by adopting controls automated financial systems have proven to be effective.

Automated clinical laboratories employ several practical measures to reduce security risks that should be evaluated in

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developing security control procedures in laboratories providing data to EPA.

INITIATIVES AND ACTIONS:

The Agency responded rapidly and responsibly to these findings.

- In June 1990, EPA published the draft *Automated Laboratory Standards: A Guide to EPA Requirements for Automated Laboratories*. This document is a single source to EPA's established principles for protecting the integrity of computer-resident data. The Guide draws heavily from the reviews discussed above. It complies with EPA's GLP requirements and includes applicable requirements from other Agency authorities.
- A draft of Good Automated Laboratory Practices (GALP) with Implementation Guidance is currently being reviewed within EPA. It is a definitive statement of what EPA considers to be acceptable data management practices for automated laboratory operations and is based almost completely on the Guide discussed above. These standard practices will impact EPA's Regional and contractor laboratories and industries required by Federal statutes to provide data to the Agency.
- The Agency recently began drafting Compliance Evaluation Guidance for EPA's Good Automated Laboratory Practices which will describe evaluation criteria for laboratory inspectors to use in auditing automated laboratories. It will also help in developing a program to ensure laboratory compliance with the GALP.

BENEFITS:

This review highlighted the urgent need for standardized data management practices in laboratories that provide data to EPA. EPA has initiated a program which will respond to this need.

This program will provide EPA with assurance that much of the data the Agency uses in reaching decisions on human health and the environment will be reliable. This program has produced a set of data management standards with guidance to implement them. These standards and guidance are scheduled to be published in the *Federal Register* in mid-1991 for public review and comment.

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Together these standards and implementation guidance will enable laboratories that provide data to EPA to have a clear understanding of what the Agency considers to be adequate controls to assure data integrity. Future decisions on further automating their operations will be improved because these laboratories will be armed with the knowledge of EPA's laboratory data management requirements.

This review is in direct support of the government-wide priorities of information management, ADP security, and ADP management. It also supports the Agency IRM initiatives of standards and improved records management. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying with EPA goals, policies, plans, and strategies; securing sensitive documents; and emphasizing government-wide priorities.

AGENCY CONTACT

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Evaluation of Electronic Forms
REVIEW NUMBER 90 - 7

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☒ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☒ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☒ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☒ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☐ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT
	☒ SECURITY
	☒ RECORDS MANAGEMENT
	☐ OTHER _____ _____ _____ _____

APPENDIX A: 1990 REVIEWS

AGENCY: EPA

TITLE OF REVIEW: Evaluation of Electronic Forms

AGENCY REVIEW NUMBER: 90-7

OBJECTIVES OF REVIEW:

The electronic forms reviews were conducted to identify opportunities to mitigate the inefficiencies of non-automated, paper-based administrative processes. Current processes involve filling in pre-printed paper forms at the local office level and passing these forms through several other offices for approval and processing. Information from the forms often may be re-keyed into national administrative systems. Large volumes of paper forms are retained for various time periods for "official record" purposes, creating document management and storage space problems.

These reviews were conducted from two perspectives. One was from the design perspective; the other was from the perspective of applications development and integration of forms data with Integrated Administrative Systems data (IAS concept). EPA is developing the IAS concept, which entails unified methods for storing and accessing information in its national administrative application systems in conjunction with a suite of LAN-based applications. These applications are intended to incorporate a capability for electronic fill-in and processing of forms-based data, without the need for generation of paper documents. The LAN-based applications are known collectively as Admin LAN.

Several initiatives are underway to evaluate, test and implement electronics forms capabilities in the Agency. The first involves testing the concept of widely distributed LAN-based and standalone applications to enter and edit data in a database for use in generating high-use electronic forms.

The other major initiative involves evaluation of current commercially-available electronic forms design and filler/processor software for the purpose of acquiring efficient products; converting the existing forms inventory to an electronic environment; and developing a capability to retrieve and print, or electronically fill-in and process forms on demand.

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SYNOPSIS OF REVIEW:

Three reviews were conducted by the Office of Information Resources (OIRM) with contractor assistance.

One review was a comprehensive study involving the joint participation of OIRM's Information Management and Systems Division (IMSD) and the Administrative Systems Division (ASD). The following is a description of the review phases:

- 1) Define requirements for front-end electronic forms processing — To define the requirements for front-end electronic forms within EPA, a review of current paper-based administrative processes was conducted. Beginning with a review of the findings of the Review of Records and Forms Management Programs (90-3), the study also required interviews with support staff and professionals in several areas of the Agency. Once the key activities needed to support typical paper-based administrative processes had been identified, those activities were translated into electronic forms requirements, such as the ability to create forms templates electronically.
- 2) Assess the feasibility of using electronic forms as the front-end to the IAS — To assess the feasibility of utilizing LAN-based electronic forms feeder systems as the front-end to the proposed IAS, a four stage methodology was developed. The first stage was an evaluation of functional feasibility — the ability of an electronic forms front-end system to meet the functional requirements. The second stage was an analysis of the technological feasibility — the ability of current technology to meet operational requirements. The third stage was a review of organizational feasibility — the ability to fit an electronic forms system into the existing organizational structure. The fourth and final stage was an assessment of the economic feasibility — a benefit/cost analysis. For each stage, obstacles to alternative implementations were identified and rated for difficulty.
- 3) Evaluate external electronic forms applications — The evaluation of the ability of commercial electronic forms software to meet the needs of EPA was accomplished by surveying the electronic-forms software market. Four highly rated software packages were selected and tested by designing, creating, processing, and printing a standard form.

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Findings were then documented and the software packages ranked to achieve a final recommended product.

- 4) Analyze the costs and benefits of internal and external electronic forms alternatives — The benefit/cost analysis examined the economic viability of automating administrative forms processing by comparing the costs and benefits of the current manual procedures for processing administrative forms with custom-developed and off-the-shelf electronic forms applications.

Another review was led by OIRM's ASD. This study involved reviewing existing activities in the Agency intended to use personal computers to generate forms. The purpose of this review included: (1) identification of promising systems which could be pilot tested on a wide user population, and (2) identification of strengths and weaknesses of the most promising of the applications. As a result, the study provided a critical review of several applications, identified the *OFFice Forms Facilitator (OFF)* as the most promising and defined the strengths and weakness of the *OFF* for use in finalizing the application for subsequent pilot testing.

A third review was conducted by IMSD. This evaluation of leading commercial form design software tested four products (*JetFORM*, *Per FORM*, *Form Maker* and *F3*) and rated their capability to meet all or portions of EPA's forms design requirements. This evaluation was a follow-up to the other assessment of commercial software mentioned above.

PRIMARY FINDINGS:

The following are findings from the joint ASD/IMSD study:

Fifteen requirements for supporting EPA's administrative activities using electronic forms were defined. The requirements were grouped by (1) forms design/mapping, (2) forms processing, (3) data and system security, and (4) forms management. The study also defined four levels of information for electronic forms applications. The levels ranged from standalone PCs to LANs connected to the Agency's administrative systems.

The study of the feasibility of using electronic forms yielded three conclusions:

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- Currently available LAN-based software for electronic forms processing can meet the functional requirements of EPA;
- It is technologically feasible to use electronic forms as the front-end to the Integrated Administrative System (IAS); and
- EPA's current organization will support the introduction of LAN-based electronic forms if roles and responsibilities are clearly delineated.

The benefit/cost analysis demonstrated that using LAN-based electronic forms systems as the front-end to IAS is a cost-effective investment. Automation of the input from local office administrative forms to national administrative systems would provide further savings and increased capabilities and efficiencies.

The ASD study identified several applications of electronic forms data capture and printing. Strengths and weaknesses of the respective applications were identified. That information was used as input to development of the modified *OFF* being used in a pilot test of Admin LAN.

The IMSD design study indicated that the electronic design of forms templates would improve the speed of design and modification of forms. It would also support electronic distribution and on-demand printing of many forms in end-user offices, thereby mitigating the labor and cost associated with pre-printing of paper forms and their manual distribution through a centralized warehouse facility.

PROPOSED ACTIONS:

The following are recommendations resulting from these reviews:

- OIRM should delay the adoption of a standard agency-wide electronic forms application for 12 months because of the rapidly changing and developing electronic forms market. Meanwhile, OIRM should continue to pursue the pilot testing of the Office of Underground Storage Tanks (OUST) developed electronic forms software in a standalone environment and conduct a pilot test of electronic forms in a LAN environment.

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- EPA should pursue LAN-based electronic forms, through a phased implementation approach, to take advantage of local processing capabilities provided by LAN-based electronic forms systems while developing and refining the IAS concept. The reviews further defined specific roles for OIRM and its Divisions. Forms design was defined the responsibility of IMSD and forms processing software the responsibility of ASD.

INITIATIVES AND ACTIONS:

OIRM is planning a review for FY 1991 (91-4) to further refine and analyze the Integrated Administrative System Concept. The refinement will result in the identification of potential benefits for various groups. The analysis will also result in the identification of issues relating to an IAS in the EPA environment and the development of an IAS definition and framework.

In the electronic forms applications arena, EPA's major initiatives for the upcoming year are:

- (1) implementation of production systems to automate the processing of high-use travel-related forms;
- (2) the addition of new forms to the system (Procurement Request, Request for Personnel Action and Claim for Reimbursement for Expenditures on Official Business);
- (3) conversion of these automated administrative forms applications to emerging Agency standard local area network architecture;
- (4) conversion of forms component to emerging Agency-standard forms design and processing products;
- (5) conversion of applications to comply with emerging Agency standards for common user interface and graphical user interface (e.g., Windows and/or OS/2 Presentation Manager); and
- (6) starting efforts to introduce electronic signature within LAN environments based on the electronic forms information generated by the *OFF* system.

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Concurrently, an effort is underway to evaluate the capability to centrally store electronic forms templates on the Agency mainframe computer and to download any form and its relevant filler/processor instructions to a LAN-based end user on request. This effort involves personnel from OIRM's IMSD and ASD and the National Data Processing Division (NDPD).

Based on the findings of the IMSD electronic forms design evaluation as well as independent Agency research, a decision was made to procure microcomputer equipment and a copy of *Per Form "Pro"* for computer design of electronic form templates. Delivery of the equipment and software is expected during the first quarter of FY 91 and work will begin immediately to convert the inventory of Agency forms to an electronic design and maintenance environment.

BENEFITS:

The benefit of this evaluation is that it provides a comprehensive assessment of potentially more effective and efficient use of Agency resources. In addition, these reviews provided valuable information on the state of electronic forms design capabilities for use in applications; clarified the functional responsibilities of OIRM Divisions; recommended appropriate tactical and strategic directions for the Agency to pursue for effective implementation; identified whether real benefits (tangible or intangible) would accrue from activities in this area; and identified specific alternative tools to implement initial applications.

As a result of conducting the design review, Agency learned that electronic design of forms will displace traditional manual graphics methods, enabling more rapid design and modification at a lower cost and production of improved quality pre-print materials. The ultimate use of fill-in and processing of forms will dramatically reduce the costs of the current paper forms processing environment.

This review is in direct support of the government-wide priorities of telecommunications, information management, and ADP security. It also supports the Agency IRM initiatives of standards, improved records management, information technology acquisitions, and electronic data reporting. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying

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with EPA goals, policies, plans, and strategies; securing sensitive documents; minimizing duplication of information systems; providing effective ADP and telecommunications resources and facilities; emphasizing government-wide priorities; and promoting productive use of human resources.

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Office of Water Data Sharing and System Compatibility Study
REVIEW NUMBER 90 - 8

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☐ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☒ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☒ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☐ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☐ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT
	☐ SECURITY
	☒ RECORDS MANAGEMENT
	☐ OTHER _____ _____ _____ _____

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AGENCY: EPA

TITLE OF REVIEW: Office of Water Data Sharing and System Compatibility Study

AGENCY REVIEW NUMBER: 90-8

OBJECTIVES OF REVIEW: This evaluation was conducted to identify impediments to data sharing and system compatibility in priority data systems maintained by/for the Office of Water (OW) and to evaluate potential solutions from the standpoint of feasibility and effectiveness.

SYNOPSIS OF REVIEW: This review was conducted by OW's Steering Committee for Water Quality Data Systems with contractor assistance. Twelve OW data systems were examined: Natural Biological Information System (BIOS), Drinking Water System (DWS), Federal Reporting Data System (FRDS), Stream/Gage Flow (GAGE), Grant Information and Control System (GICS), Industrial Facilities Discharge (IFD), Needs Survey (NEEDS), Ocean Data Evaluation System (ODES), Permit Compliance System (PCS), River Reach Characteristic File (REACH), Storage and Retrieval of Water Quality Information (STORET), and Water Body System (WBS). Nine criteria were identified by the Steering Committee which measure a system's amenability to data sharing and system compatibility:

- Are there minimum data sets/fields facilitating linking of data between independent systems?
- Does the system provide a means to readily access and display/overlay data from other systems?
- Does the system contain a latitude/longitude or other coordinate set allowing data integration through GIS?
- Can system security measures be modified to encourage data sharing and exchange without risking data loss/corruption?
- Are data evaluated to determine their quality during collection and data entry?

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- Are on-line reports available that address data quality and factors affecting interpretation?
- Does the system provide a means for easily down- and up-loading data via a PC?
- Does the system have graphics/mapping retrieval capabilities?
- Does the system include on-line reports which address the timeliness of data that is required to be reported?

The review analyzed each priority data system against the above criteria, highlighting the need for data sharing/system compatibility. Interviews with program and system managers and Steering Committee members helped establish a list of options which could be used to help systems meet or exceed the objectives established by the Steering Committee criteria.

The review provided a detailed look at each system and the measures which would be most beneficial for each system in order to meet data integration objectives established by the Steering Committee. The options were evaluated for factors such as ability to assist in data sharing, whether the options were compatible with the mission of the program the system supports, whether management would approve of the option, and an approximation of relative cost. The analysis yielded a unique set of "recommended options" for each system.

PRIMARY FINDINGS:

A multitude of factors led to OW data compatibility problems. Data collections in OW were created to support different laws and sections of laws, and those data collections are managed by different organizations. Resources were spent primarily on program mission needs, not office-wide needs. In addition, most of the data is supplied by entities outside of the Agency.

There are many reasons why data and system integration initiatives must be actively supported. The incompatibility of information in OW systems seriously limits the utility of those data. Modernization initiatives have commenced which afford the opportunity to integrate many OW systems. Recent trends and events (e.g., the Community Right-to-Know Law, property transfer requirements, stepped-up enforcement activities)

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reinforce the need for data integration mechanisms to support secondary use of data collected by others. Administration priorities for data integration are clear, and many data managers are having to adopt new practices to make their systems amenable to the secondary user. Agency policies and data standards (e.g., use of CAS numbers, locational data policy, facility identification data standard, and minimum data elements for groundwater) will dramatically change data management practices throughout EPA to enhance data integratability. New tools and techniques (e.g., GIS) make data integration more achievable than ever.

PROPOSED ACTIONS:

When all criteria and all systems were assumed to be of equivalent importance, the most frequently recommended options for enhancing all OW data systems were:

- Use standard identifiers to assure that compatible identification data are used;
- Improve documentation for procedures such as downloading data to ensure that users have the instructional resources available to perform these functions;
- Perform QA/QC screening prior to data entry to improve the quality of information contained in the data bases; and
- Include documentation of data quality within the data systems as searchable, sortable data elements offering secondary users the tools necessary to determine data quality.

When the Steering Committee prioritized both systems and criteria, the result was a list of system-specific, prioritized recommendations for enhancements of each system. The above recommendations still applied; however, their importance was changed for individual systems. As a result of this analysis, enhancements to FRDS, PCS, STORET, BIOS, and ODES received the highest priority, enhancements to GICS and WBS were ranked as medium priorities, and the remaining OW system enhancements (REACH, DWS, GAGE, IFD, and NEEDS) received the lowest priority.

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The recommendations/next steps resulting from this evaluation are as follows:

- Improve user training and support for priority data systems;
- Develop an awareness of GIS and other spatial analysis tools which can enhance data integration;
- Coordinate activities with OIRM;
- Support Agency policies (e.g., use of CAS numbers, lat/long coordinates) which will enhance data integration;
- Address data system modernization from an Office-wide perspective; and
- Develop a long-term plan targeting modernization priorities, OW systems, steps to achieve, constraints to overcome, other users (e.g., States) requirements, and funding requirements.

INITIATIVES AND ACTIONS:

This study which has received support from senior management within the Office of Water has been forwarded to office directors and system managers. The Steering Committee will be developing a long term plan which will include recommendations from this study. Modernization efforts have begun for STORET, BIOS, and ODES which will be the first phase of an overall system modernization for the Office of Water.

BENEFITS:

The benefit of this review is that it provides a cohesive overview of all the systems in OW which will facilitate a more coordinated approach to managing each of the systems.

This review is in direct support of the government-wide priorities of information management, ADP management, and major information systems. It also supports the Agency IRM initiatives of data sharing and integration, program systems modernization, and standards. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying with EPA goals, policies, plans, and strategies; integrating information systems across media, functional, and program lines; promoting data sharing;

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providing effective ADP and telecommunications resources and facilities; and emphasizing government-wide priorities.

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
 REVIEW TITLE Toxic Release Inventory Productivity Review
 REVIEW NUMBER 90 - 9

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☐ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☐ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☒ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☒ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT ☐ SECURITY ☒ RECORDS MANAGEMENT ☐ OTHER _____ _____ _____ _____

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AGENCY: EPA

TITLE OF REVIEW: Toxic Release Inventory Productivity Review

AGENCY REVIEW NUMBER: 90-9

OBJECTIVES OF REVIEW:

The Emergency Planning and Community Right-to-Know Act, Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, requires facilities which manufacture, process or use any of the specified toxic chemicals to report annually the amount of those chemicals released directly to air, water, or land or that are transported to off-site dumping facilities. The same law requires EPA to establish a national Toxic Release Inventory (TRI) and to make this information available to the public annually via telecommunications and other means. The legislation is based on the belief that the public has a "right-to-know" about toxic chemicals in their communities.

Reports are submitted by industry on a Form R to the Title III Reporting Center. The data is processed onto a local area network (LAN) at the center, verified for accuracy, and then periodically uploaded to a database on one of EPA's mainframes. The data is then analyzed for accuracy, and erroneous records in the database are corrected by EPA and contractor personnel. Finally, when an acceptable level of data quality is reached, the data is delivered to the National Library of Medicine (NLM), the organization which disseminates the data.

The purpose of this evaluation was to conduct a productivity review of TRI, identifying the strengths and weaknesses of the system and targeting specific areas where operations may be improved to reduce costs, strengthen data reliability, and reduce the time required to release data to NLM.

SYNOPSIS OF REVIEW:

This review was conducted by the Office of Toxic Substances (OTS) with contractor assistance. It assessed the productivity of TRI, including software, hardware, and management activities and evaluated improvements EPA was in the process of making to increase the effectiveness of the system. The study focused in particular on TRI data collection and receipt, data entry,

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quality control and assurance, storage, retrieval and tracking and retention of data submissions.

For the purposes of this review, productivity was defined in terms of accuracy, timeliness, and cost. Accuracy is the degree to which the data entered into the database is correct, both in terms of data entry accuracy and detection and correction of reporter errors. Timeliness is the extent to which EPA was able to provide the TRI database to NLM in a timely manner. Cost reflects the adequacy of funding for TRI and the extent to which the above criteria impact funding requirements. Together these three criteria represent the fundamental performance dynamics that surround TRI and its user requirements, and they provide a useful framework in which to evaluate the overall productivity of the system.

PRIMARY FINDINGS:

The productivity of TRI, as defined by the productivity standards, was as follows:

- Accuracy — The quality of the data is high and will improve more as further modifications to the system are made. Currently, EPA attempts not only to correct data input errors but also ensures that information provided by reporters is as accurate as possible. In reporting year 1988, EPA achieved a data entry accuracy level of 98.5% for all data fields in all records in the system.
- Timeliness — The internal goal of having the 1989 data ready to release nine months after the filing deadline has not been met for previous years. The FY88 data was released to NLM on May 29, 1990, approximately 11 months after the filing deadline.
- Cost — TRI is operating with less funding than originally projected to be necessary while simultaneously trying to meet more stringent data quality objectives. Initial planning for TRI projected variable processing costs assuming only very basic data quality controls.

EPA has placed an extraordinary level of emphasis on data accuracy in TRI due to the public nature of the database. This level of accuracy has been achieved at significant cost as resources and attention have been directed from other activities to focus on extensive data quality/accuracy. In addition, this

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emphasis on accuracy has resulted in significant delays in releasing the database to the public through NLM, preventing EPA from meeting timeliness standards. This situation is exacerbated by the lack of funding. Ultimately, EPA must achieve a balance between data accuracy, timeliness, and cost if management and technical stability for the program are to be achieved.

PROPOSED ACTIONS:

The following are recommendations for critical areas where improvements can be made to enhance overall performance:

- Wait to define new data fields for the system — The potential for changes in regulations, which significantly increase the number of data fields stored in the database and/or the number of reporting parties, is high. However, selecting a specific means of adapting the system to meet the new requirements is not possible until the full impact of the changes is known.
- Establish unambiguous, realistic, and achievable goals for data accuracy and timeliness — Although an internal timeliness goal of 9 months from the reporting deadline has been selected, an unambiguous goal has not been identified for data accuracy. Selecting a specific goal for data accuracy would focus staff and contractor efforts on meeting a specific productivity goal.
- Strengthen the planning environment by planning for ad hoc requirements, establishing a formal software development process, and establish a formal hardware replacement process — A formal planning process within TRI does exist, but plans may not be followed through due to the responsibility of the public system to respond in a timely manner to demands from external parties.
- Utilize one, not three, contractors for TRI operations — Currently, three contractors share the operational responsibilities for TRI, and this results in a complex structure with some functional overlap.
- Revise contractor Statements of Work (SOW) to reflect the continuing nature of the project as opposed to the original start-up nature — The SOWs of TRI's two primary contractors were written to support TRI during its start-up

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phase; therefore, several activities listed are obsolete and current standards for productivity are not reflected.

- Continue efforts to improve the design and functionality of the current data input software — EPA should also continue its efforts to improve data input speed and accuracy through magnetic media and Optical Character Recognition (OCR) scanning.
- Upgrade form storage and access by selecting and implementing optical disk storage for Form Rs — EPA has already recognized that the current practice of storing paper forms in filing cabinets is neither cost effective nor practical and is investigating alternative storage means.
- Redesign Form R and the instructions for completing it to improve efficiency and understandability — There are many concerns regarding the inefficient design of the present Form R as it is difficult for reporters to understand and hinders data entry and OCR scanning. Additionally, OMB approval for the current form expires soon.

INITIATIVES AND ACTIONS:

EPA has initiated action to consolidate the TRI operational contract under one contractor. The Request for Proposal will be published in the *Commerce Business Daily* in early 1991 with a new contract award in early 1992. At that time, one contractor will be responsible for all information management functions for TRI. The new statement of work reflects continuing nature of the project verses the original start-up nature. It also redefines the data accuracy goals.

Design and functionality changes are being made to the input software to increase data quality and timeliness. EPA is field testing OCR technology during the current reporting cycle. EPA is also acquiring a software package which TRI reporters can use to report their data via magnetic media (Personal Computer generated diskette). EPA will disseminate this software package to all TRI submitters as part of the general mailing which occurs each reporting year. EPA expects to reduce costs, increase data reliability and timeliness with use of these data input technologies.

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During the current fiscal year, EPA plans to utilize optical disk technology to store and access the more than 500 thousand TRI documents received during the past three years.

BENEFITS:

The Toxic Release Inventory information has become the nation's first chemical specific, multi-media database of emissions. The TRI database is a powerful tool for citizens to evaluate the chemical risks in their community and set priorities for risk reduction efforts. Similar uses of the TRI database for evaluating environmental quality are apparent to national and Regional EPA and State and local environmental officials. The productivity review of TRI recommends improvements which will enable EPA to reduce costs, strengthen data reliability, and reduce the time required to release the data to the public. These improvements will provide a more timely and better database for the public to use for long term environmental planning and pollution prevention.

This review is in direct support of the government-wide priorities of telecommunications, information management, and major information systems. It also supports the Agency IRM initiatives of improved records management, public dissemination, and electronic data reporting. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; complying with EPA goals, policies, plans, and strategies; reducing the information collection burden; promoting data sharing; providing effective ADP and telecommunications resources and facilities; emphasizing government-wide priorities; and promoting productive use of human resources.

AGENCY CONTACT

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Superfund Document Management Review
REVIEW NUMBER 90 - 10

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☐ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☐ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☒ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☒ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT
	☒ SECURITY
	☒ RECORDS MANAGEMENT
	☐ OTHER _____ _____ _____ _____

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AGENCY: EPA

**TITLE OF
REVIEW:** Superfund Document Management Review

**AGENCY REVIEW
NUMBER:** 90-10

**OBJECTIVES OF
REVIEW:**

Document management is critical to the management, administration, and execution of the Superfund program. Documents are generated to initiate cleanup actions; to record technical conditions, activities, decisions, and remedies; to communicate with the public; to identify, negotiate or litigate with responsible parties; and to track costs and schedules for cleanup activities.

The purpose of this review was to (1) develop a comprehensive understanding of the current document management environment throughout the Superfund program, to quantify the costs of maintaining this environment, and to assess the risks associated with current practices; (2) determine where advanced technologies might streamline document capture and secure storage, or be used to improve efficiency, cut costs and/or minimize risks; and (3) propose long-term improvements and system solutions.

**SYNOPSIS OF
REVIEW:**

The study was conducted with contractor support by the Office of Emergency and Remedial Response and the Office of Waste Programs Enforcement, under the direction of the Office of Solid Waste and Emergency Response (OSWER). The scope of the study deals with site-related documents supporting pre-remedial, remedial, removal, and enforcement actions. These include management, financial, technical, and enforcement documents and exclude documents supporting program activities unrelated to the cleanup of hazardous waste sites, such as program management and regulatory development.

A three-step methodology was used to collect information for this review. The first step was to review applicable policies, procedures and guidelines, as well as the results of previous studies. The second was to conduct interviews with Regional and Headquarters EPA personnel and staff working for contractors, States, and other Federal agencies involved in the

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Superfund program. The final step was to organize a document study workgroup with Headquarters and Regional EPA representatives to identify document management issues.

PRIMARY FINDINGS:

The Regions have made significant progress in addressing the document management problem and in organizing the existing backlog of Superfund program records. However, the state of Superfund document management across the program is inadequate to support the program mission. Additionally:

- There is a veritable blizzard of paper being generated and stored by the program which is bound to choke the Regions if decisive steps are not taken at once to bring about real solutions to this mission-critical problem.
- Professional staff are frustrated by the lack of adequate administrative support. The program currently experiences nearly \$18 million per year in labor costs for technical staff to manage program documentation.
- The lack of backup to vital records poses a tremendous risk to the program, which could have been significantly impacted by the recent earthquake which damaged Region IX's office building.

PROPOSED ACTIONS:

The primary recommendations of this study focused on a proactive approach which captures and secures Superfund documents where they originate or enter the Agency. In implementing these recommendations, the Superfund program can build on existing Regional records management operations and can utilize advanced technologies, integrated with automated information systems currently in operation throughout the program. This front-end approach would enhance program recordkeeping, improve document availability, increase utilization, and more effectively support the management and administration of the Superfund program.

It was recommended that the Superfund program's administrators move on three fronts to effect both short and long-term improvements to the management of program documents. These are to:

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- Develop and promulgate comprehensive and consistent guidance to Agency personnel, contractors, associated Federal agencies, States and responsible parties on document handling policies and procedures. Contracts, inter-agency agreements, cooperative agreements, and consent decrees must contain explicit language on the procedures for handling records in compliance with this document management policy.
- Implement recommended interim improvements to the current document management process in a timely fashion. Preliminary proposals for the interim improvements were made, for example, establishing a central records center at EPA Headquarters and microfilming the site administrative records.
- Develop and implement a program-wide system solution, a Superfund Document Management System (SDMS), for managing Superfund document records. The system should incorporate a multi-media approach which includes paper, micrographic, and image-based storage and retrieval technologies. The high-level functional requirements, conceptual design, preliminary plan for development, and rough estimates for annual operating costs for implementing SDMS have been outlined.

INITIATIVES AND ACTIONS:

The follow-up to this study will be the Review of Superfund Document Management Initiatives, 91-3. One of those initiatives will be to identify, define, and develop interim steps for improving current Superfund document management processes will be conducted in FY 1991. Those steps will be cost-effective and compatible with the long-term system solutions proposed in this study. Some of the preliminary proposals are to:

- Establish a Superfund strategic information plan which integrates document and information management across the program;
- Establish a central records center at EPA Headquarters to collect, organize, and secure Superfund program records generated or received by Headquarters;

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- Microfilm the site administrative records that have been compiled to data across the program;
- Increase administrative support staff to ease the document management burden now placed on RPMs and OSCs;
- Provide effective assistance to RPMs, OSCs, and DPOs for managing working files, to include detailed document trees, distribution lists, and pre-labeled file folders for site records;
- Develop a program-wide system to track FOIA requests and responses; and
- Establish effective document control procedures over Agency and program policy, guidance, and directives relevant to Superfund activities.

In the next phase of this study, these and other proposals for interim improvements will be further defined, developed and distributed for review and comment.

Another follow-up initiative will provide OSWER management with recommendations for improving guidance for EPA staff, contractors, States, and other program participants on the proper handling practices for Superfund program documents.

Also scheduled for 1991, the next phases for the OSWER system development life cycle will be SDMS conceptual design and requirements definition which will include the development of a prototype to demonstrate the effectiveness and efficiency of important parts of the logical system design. A finer level of detail will be provided on some of the other Agency systems with which SDMS will need to be able to communicate, such as the Superfund Cost Recovery Image Processing System (SCRIPS), WasteLAN, and the CERCLA Information System (CERCLIS).

BENEFITS:

This study highlighted some serious risks posed to the Agency by the current management of Superfund documents. It also generated a concept for a system which will minimize those risks while being cost-effective and increasing efficiency for the Agency.

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This review is in direct support of the government-wide priorities of information management, ADP security, ADP management, and major information systems. It also supports the Agency IRM initiatives of standards and improved records management. Numerous objectives of the EPA IRM review program are also addressed: providing high quality information services in an efficient and cost-effective manner; using effectively state-of-the-art capabilities to achieve environmental results; complying with EPA goals, policies, plans, and strategies; securing sensitive documents; promoting data sharing; providing effective ADP and telecommunications resources and facilities; emphasizing government-wide priorities; and promoting productive use of human resources.

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SYNOPSIS DATA SHEET

AGENCY Environmental Protection Agency
REVIEW TITLE Electronic Reporting Study
REVIEW NUMBER 90 - 11

TYPE OF REVIEW	CATEGORY OF REVIEW
☒ IRM	☒ TELECOMMUNICATIONS
☐ INTERNAL CONTROL REVIEW (A-123)	☐ END USER COMPUTING
☐ VULNERABILITY ASSESSMENT (A-123)	☐ SOFTWARE MANAGEMENT
☐ INSPECTOR GENERAL AUDIT	☒ INFORMATION MANAGEMENT
☐ SECURITY (A-130)	☐ ELECTRONIC FILING
☐ PERFORMANCE OF COMMERCIAL ACTIVITIES (A-76 REVIEW)	☐ MAJOR INFORMATION SYSTEMS
☐ FINANCIAL (A-127)	☒ COMPLIANCE WITH PRA SECTION 3506
☐ OTHER _____ _____ _____ _____	☐ ADP MANAGEMENT
	☐ SECURITY
	☒ RECORDS MANAGEMENT
	☐ OTHER _____ _____ _____ _____

APPENDIX A: 1990 REVIEWS

AGENCY: EPA

TITLE OF
REVIEW: Electronic Reporting Study

AGENCY REVIEW
NUMBER: 90-11

OBJECTIVES OF
REVIEW: The objectives of this study of electronic reporting within the Agency were to: (1) assess the scope and success of current EPA efforts to allow members of the regulated community to submit reports in an electronic or magnetic medium ('electronic reporting'); (2) identify EPA programs that would benefit most from new EPA electronic reporting initiatives; (3) assess the feasibility of such initiatives; and (4) determine the costs and benefits of a coordinated Agency-wide approach to electronic reporting.

SYNOPSIS OF
REVIEW: The study was conducted by a Agency-wide task force which was chaired by the Office of Policy, Planning and Evaluation (OPPE) with program office representatives and contractor assistance. The review covered the reporting of environmental data to all EPA Headquarters program offices and to selected Regional Offices and States. The review included consideration of:

- The relative success of current electronic reporting efforts in terms of cost-reduction, data quality improvements, technical difficulties, and participation by the regulated community;
- The cost and data quality problems associated with receiving and processing paper submissions of data;
- The resources and technical expertise available at Headquarters, Regional and State levels to support electronic reporting;
- The willingness of States to participate in EPA electronic reporting initiatives;
- Possible legal obstacles to electronic reporting, for example, the problem posed by the electronic signatures;

FY 1990 IRM REVIEW PROGRAM REPORT

- Data security requirements to ensure admissibility of electronically submitted data in court proceedings, and the adequacy of current EPA data security procedures; and
- Electronic data interchange (EDI) practices current in EPA's regulated community.

PRIMARY FINDINGS:

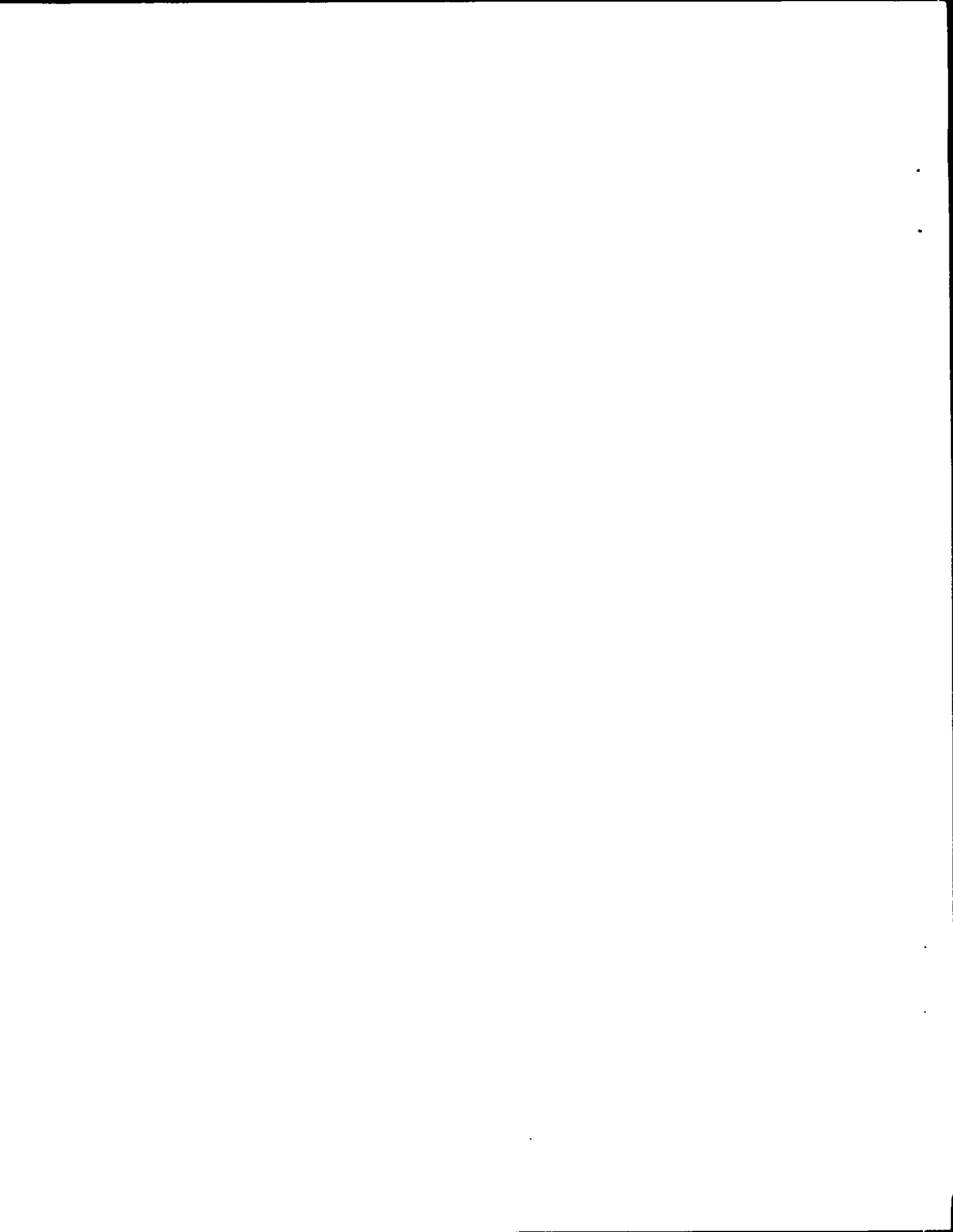
Primary findings of the study were that:

- The move to electronic reporting offers a favorable benefit/cost ratio for many EPA programs;
- As EPA electronic reporting initiatives multiply, the interests of both the Agency and the regulated community are best served by taking a coordinated, Agency-wide approach that is compatible with current EDI practices in industry;
- There are no serious legal obstacles to instituting electronic reporting, and no serious deficiencies in EPA data security that would undermine the legal status of electronic reporting; and
- Likely candidates for new or expanded electronic reporting initiatives include: the NPDES Discharge Monitoring Report (DMR), the Toxic Release Inventory (TRI) Form R, and the RCRA Biennial Report.

PROPOSED ACTIONS:

Four recommendations were formulated from the findings. They were that:

- The Office of Toxic Substances (OTS) expand their electronic reporting activities and enhance current TRI electronic reporting by developing an ANSI X12-compatible reporting format;
- The Office of Water study the feasibility of electronic reporting for the DMR, and pilot test an approach for this;
- The Office of Solid Waste study the feasibility of electronic reporting options for the RCRA Biennial Report and for the Hazardous Waste Manifest; and



Appendix B:

FY 1991 Planned Reviews

- 91-1 Information Collection Review —
Improvements to the Hazardous Waste
Manifest System
- 91-2 State/EPA Data Management Review
- 91-3 Review of Superfund Document
Management Initiatives
- 91-4 Review of the Integrated Administrative
System Concept
- 91-5 Review of the Modernization of FINDS
- 91-6 Review Public Access Program Needs
- 91-7 Review of Strategic Architectural Issues
- 91-8 Review of the Modernization of STORET
- 91-9 Locational Accuracy Task Force Review



FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: Information Collection Review — Improvements to the Hazardous Waste Manifest System

**AGENCY REVIEW
NUMBER:** 91-1

SCOPE OF REVIEW: The scope of this review is to improve the present manifest system for shipments of hazardous waste. It will build on the activities already started by the International Hazardous Waste Manifest Coordinators' Group (IHWMC) to improve and standardize the hazardous waste manifest activities of State agencies and the U.S. Environmental Protection Agency (EPA). Staff from the National Governors' Association (NGA) will work with an advisory group comprised of IHWMC members and EPA staff to carry out the aims of the review. A valuable product of the effort is expected to be an enhanced ability of the State agencies and EPA to: (1) track interstate shipments of hazardous waste, (2) support RCRA information systems associated with such programs as EPA's Biennial Report and the SARA Capacity Assurance certifications required of States; and (3) establish an historic record of wastes transfers for reference when inquiries arise.

This review supports the government-wide priority of information management and the Agency-specific priorities of achieving environmental results and assuring a strong enforcement presence.

**BRIEF
DESCRIPTION:**

The review effort is divided into five tasks:

1. Conducting two meetings of the full membership of the IHWMC to review progress on the other four tasks listed below, providing direction for further task efforts, and discussing other relevant manifest issues;
2. Completing the preparation of formal recommendations to EPA, using the continuing advice and counsel of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO), on improvements for the Uniform Hazardous Waste Manifest form;
3. Drafting a National Manifest Guidance Manual for State agencies;

APPENDIX B: 1991 REVIEWS

4. Identifying and recommending the resolution of outstanding issues requiring clarification in the existing EPA manifest regulations; and
5. Developing a National Manifest Guidance Manual for regulated parties.

This project is jointly funded by the Office of Policy, Planning, and Evaluation and the Office of Solid Waste. The project began in June 1990 and will continue through FY 1991.

AGENCY CONTACT AND PHONE NO.:

Rick Westlund, (202) 382-2745.

FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: State/EPA Data Management Review

**AGENCY REVIEW
NUMBER:** 91-2

SCOPE OF REVIEW: The State/EPA Data Management Program, established in 1986, is committed to: (1) build and maintain the infrastructure needed for effective State/EPA data management and sharing, and (2) integrate data across media and programs so that EPA and State managers can target their efforts on environmental results.

The program has been implemented through information management projects which have been completed by EPA's Regions working with individual States. These projects have resulted in improved understanding and relationships between EPA Regions and States, and improved data quality and timeliness. Data integration projects are now underway in several Regions/States, and involve additional coordination of State/EPA information management activities as well as various data integration initiatives.

The start date of the planned review to assess the progress of the Regions in meeting the objectives of the State/EPA Data Management Program was delayed until late FY 90 due to resource constraints. As a kickoff for the program assessment, OIRM held the Senior Executives Forum on the State/EPA Data Management Program at Harvard University in September 1990.

The purpose of this Forum was to examine past developments to create new ways to shape the future direction of the State/EPA Data Management Program. Attendees included EPA Headquarters and Regional senior managers, as well as State senior environmental managers. The recommendations made during the Forum included improving existing and developing better communications activities, creating strategies to further co-development of environmental information systems between the EPA and States, and promoting data stewardship with States. These recommendations will serve as a guide for shaping the scope and direction of the upcoming interviews for the program assessment.

APPENDIX B: 1991 REVIEWS

BRIEF

DESCRIPTION:

This review will be conducted by OIRM with contractor support. Data collection procedures and instruments will be designed to characterize and assess State/EPA projects and progress. The review team will travel to all ten Regions and interview program participants. In addition, the review team will interview NCC and Program Office participants and staff. Follow-up telephone interviews will be conducted. The interviews will provide the basis for the development of a comprehensive program strategy, which will include long and short range goals and a formal national communication strategy.

AGENCY CONTACT

AND PHONE NO.: Michele Zenon, (202) 382-5913.

FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: Review of Superfund Document Management Initiatives

**AGENCY REVIEW
NUMBER:** 91-3

SCOPE OF REVIEW: Proficient records management is crucial to the efficient and effective management, administration, and execution of the Superfund program. For the last year, the Office of Solid Waste and Emergency Response (OSWER) has been conducting the Superfund Document Management Study (see 90-10) to improve the efficiency and effectiveness of records management and document handling practices and systems in the Superfund program. The study focused on site-related documents generated as a result of pre-remedial, remedial, enforcement, and removal actions. In conducting the study, EPA has identified the potential for improving the effectiveness and efficiency of Superfund records management and document handling operations through the application of advanced technology — specifically, through the use of optical disk (imaging) technology systems.

The purpose of this review will be to follow up on the findings of the previous study with three related studies which will:

- (1) Analyze and recommend training and interim steps to enhance the efficiency and effectiveness of current records management activities;
- (2) Develop or refine guidance for managing Superfund records; and
- (3) Complete the concept and definition phases for a Superfund Document Management System (SDMS).

**BRIEF
DESCRIPTION:**

All three reviews will be conducted by the Office of Solid Waste and Emergency Response.

To help ensure that Superfund records management personnel are properly trained, OSWER Information Management Staff proposes the development of a Superfund records management training plan and program. The specific objectives of the first review are to:

APPENDIX A: 1990 REVIEWS

- Develop an approach for incorporating records management into the Superfund training program;
- Develop the required training materials for clerical/paraprofessional and professional staff; and
- Conduct follow up analyses of other interim management improvements previously identified as having the potential to enhance the efficiency and effectiveness of EPA's Superfund records management activities.

There is a high priority initiative within OSWER designed to create consistent, effective, sound records management practices in those non-EPA organizations that play a key role in implementing the Superfund program. The second review will examine the records management issues that should occur during the life cycle of a record. The cycle includes creation, storage, use, and disposition. Examples of topics to be analyzed are retention schedules, file organization and structure, file indexing, and document turnover procedures, e.g., obtaining final copies of relevant contractor files.

The third and final review for FY 1991 will analyze the alternatives, advantages, disadvantages, and detailed requirements for improving EPA's Superfund records management and document handling operations through the possible use of a multi-media system using microform, hardcopy documents, and optical disks known as the Superfund Document Management System (SDMS). The concept phase will identify and evaluate alternative solutions to the information management problem, provide a better definition of the problem to be solved, and define a basic framework for requirements for an information management capability. The definition phase will generate specific, detailed functional and data requirements for the system, provide the basis for a more concrete assessment of benefits and costs, and form the basis of the detailed design of the system during the next phase, design.

AGENCY CONTACT
AND PHONE NO.: Michelle Curtis, (202) 382-7951.

FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: Review of the Integrated Administrative System Concept

**AGENCY REVIEW
NUMBER:** 91-4

SCOPE OF REVIEW: The mission of the Administrative Systems Division (ASD) of the OIRM is to provide support to the administrative National Program Managers (NPMs) and to Agency organizations that are involved in administrative functions. ASD's objective is to provide controls and processes to the NPMs to more efficiently and effectively carry out their responsibilities. In addition, ASD's objective is to provide the Agency organizations performing administrative functions with consistent and user-friendly access to the systems ASD operates for the NPMs.

To meet those objectives, ASD has developed the concept of an Integrated Administrative System (IAS). The IAS would link (1) centrally-based administrative applications — used for processing basic administrative transaction data, (2) distributed "feeder" systems — used by EPA offices for creating administrative transactions and sending them forward to the intended administrative system, and (3) databases — centralized and distributed databases for storage and retrieval of key administrative data, with these databases being considered a separate component from the systems that feed them.

The intent of this review will be to further evaluate and refine the IAS concept. The refinement will result in the identification of potential benefits to senior agency management, local office users, administrative NPM users, and the EPA's IRM community. The evaluation will also result in the identification of issues relating to an IAS in the EPA environment and the development of an IAS definition and framework.

**BRIEF
DESCRIPTION:**

This review will be conducted by OIRM with contractor assistance. Research will be conducted to identify functions and relationships among current national systems for which ASD is responsible. Specifically, the following methodology will be used:

- Review current documentation on the IAS Concept, administrative systems, and ASD organization;

APPENDIX B: 1991 REVIEWS

- Identify current AdminLAN applications, central applications, databases, and their interfaces;
- Interview personnel involved in administrative functions; and
- Review external documentation concerning integrated systems, information engineering, and database systems.

Refinements will then be made to the IAS concept in terms of standards, integration, operability, organizational relationships, information architecture, control, and system applications. A description of its capabilities and an identification of potential benefits that EPA will achieve by implementing such a system will be generated.

A detailed analysis of the IAS components (feeder systems, central applications, and the corporate database) will also be conducted and the issues to be resolved based upon the IAS concept definition will be presented. Documenting the issues will enable the Agency to develop a project management plan.

**AGENCY CONTACT
AND PHONE NO.:** Lawrence Lee, (202) 382-3042.

FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: Review of the Modernization of FINDS

AGENCY REVIEW

NUMBER: 91-5

SCOPE OF REVIEW: During the past three years, OIRM has actively sought to institute sound data management practices throughout EPA that would improve the access by users across the Agency. They have adopted a standard and a policy which will move EPA closer to these goals: a standard for the use of a Facility Identification Code ("EPA ID code") to uniquely identify facilities regulated under Federal environmental laws, and a policy for the collection and documentation of latitude/longitude coordinates ("lat/longs") and their method, entity description and accuracy.

For this review, OIRM, with contractor assistance, will make recommendations for plans, processes and/or changes needed in the Facility INDEX System (FINDS) to implement the Facility Identification Data Standard and the Locational Data Policy. Implementation of these two guidances will have far-reaching effect on the management and maintenance of all EPA data systems, especially FINDS. Environmental regulators will increasingly be relying on FINDS to identify and access all EPA program data; therefore, FINDS must be tightly coordinated with EPA program data sources to be complete, timely and accurate. In addition, OIRM is in the process of implementing data integration across pertinent EPA computer systems. Specifically, OIRM jointly with the Office of Enforcement is developing the means for Enforcement Data Linkage, which is hinged upon the effective implementation of the EPA Facility Identification Data Standard.

BRIEF

DESCRIPTION:

This review will be conducted by OIRM with contractor assistance. Interviews will be conducted with both data system managers and information policy developers to obtain a clear understanding of their needs, constraints, concerns, and program activities. A series of analyses will result in recommendations on the most feasible and effective course of action. More specifically:

- OIRM will generate recommendations on steps which need to be taken to prepare FINDS for implementation of the Facility Identification Code Standard. That will entail developing an understanding of the implications of linking

APPENDIX B: 1991 REVIEWS

FINDS to program data systems through synchronized updates.

- OIRM will develop a briefing to be presented to the Task Force on Locational Accuracy that provides alternatives for a central repository of the facility-related latitude/longitude data required by the Locational Data Policy. The policy calls for the collection and documentation of lat/long coordinates, entity description, accuracy, and method for every facility, point, etc. about which data are collected.
- OIRM will develop a Project Management Plan to provide a graphic illustration of the flow of the phases in the planned enhancement of FINDS, while demonstrating critical paths and the tasks that must be completed prior to starting other tasks.

AGENCY CONTACT AND PHONE NO.:

Ingrid Meyer, (703) 883-8832.

FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: Review Public Access Program Needs

**AGENCY REVIEW
NUMBER:** 91-6

SCOPE OF REVIEW: EPA is experiencing an increased demand by the public for information. In addition, legislative requirements to disseminate information to the public are creating increased pressure upon EPA to augment services for information access and dissemination. OIRM is developing a public access policy which broadly defines Agency goals for public access and loosely defines roles and responsibilities for OIRM and for program offices. This review is intended to assess and effectively communicate public access trends, activities, policies and procedures to EPA program managers. The review will result in improved awareness and plans for public access activities.

**BRIEF
DESCRIPTION:**

This review will be conducted by OIRM with contractor assistance. To summarize public access and dissemination issues, a status document will be prepared by conducting interviews, reviewing documentation, and building upon the previous knowledge obtained in the Review of Public Information Access Services (90-4). The status report will be used by EPA program managers to anticipate and plan for public access activities within their respective programs. The report will:

- Contain definitions of public access and dissemination;
- Provide an overview of the current legislative environment;
- Document current EPA public access initiatives;
- Present case studies of selected EPA systems and services and the users' perspectives on these services; and
- Examine internal and external mechanisms, manual and electronic, which can be used for information access and dissemination.

Documented for each mechanism will be the mission and purpose of the mechanism, services available, intended users, information collection practices, information storage practices, distribution mechanisms, feedback mechanisms, costs, technologies utilized, and contact name and phone number. The

APPENDIX B: 1991 REVIEWS

status report will also provide information on the technologies utilized for information access and dissemination.

After the status document is completed, there will be a series of forums for EPA program managers to discuss public access issues and concerns. The information from the forums will be used to develop recommendations on the policy and the strategy necessary for OIRM to meet public access legislative requirements and overall Agency goals. OIRM has been developing a public access strategy and working with selected EPA programs to provide support and guidance on public access. In addition, recommendations will be offered on next steps for implementing the public access policy and strategy.

**AGENCY CONTACT
AND PHONE NO.:** Debbie Ross, (202) 475-7705.

FY 1990 IRM REVIEW PROGRAM REPORT

TITLE: Review of Strategic Architectural Issues

**AGENCY REVIEW
NUMBER:** 91-7

SCOPE OF REVIEW: In FY 1991, EPA's National Data Processing Division (NDPD) is planning to review seven strategic architectural issues:

- 1) Local area network (LAN) as a national application platform;
- 2) Structured Query Language (SQL)/Relational Database Management System (RDBMS);
- 3) Logical mainframe (LMF) futures and Regional servers;
- 4) E-mail and document distribution;
- 5) Common user interface;
- 6) AS/400 utilization; and
- 7) Information resources management (IRM) training.

BRIEF

DESCRIPTION: The review will be conducted by NDPD with contractor assistance. Each of the above issues will be studied for the impact they will have on the future vision of information resources in the EPA.

- 1) Local area network (LAN) as a national application platform — The integration of personal computers, LANs, and LAN file servers offer the Agency an alternative to the traditional host processor platform for applications processing. The Agency, however, has not established the criteria for discerning which applications are best suited for host environment and which are ideally suited for the LAN environment. The Agency will study and evaluate the feasibility of using LANs as a platform for supporting national applications.
- 2) Structured Query Language (SQL)/Relational Database Management System (RDBMS) — Two closely related areas experiencing rapid advances in the information systems industry are client server technologies and relational database management systems (RDBMS). structured query language (SQL) has been adopted as the standard method for defining and manipulating data in a relational database environment. Utilization of SQL/RDBMS in a networked environment is benefiting organizations with significant improvements in the areas of decision support, workgroup productivity, performance, connectivity and data

APPENDIX B: 1991 REVIEWS

integrity. For this reason, there is a need for the Agency to review and assess the impact of SQL and RDBMS as a maturing technology. The strategic issue is whether the Agency wants to commit the resources to acquire, implement, train for, and utilize this technology.

- 3) Logical mainframe (LMF) futures and Regional servers — The IBM 4381 minicomputers or logical mainframes (LMFs) in each EPA Regional office never reached high utilization levels because of the advent of PCs and PC-LANs. Because of this, the LMFs have been targeted for removal. As LMFs are removed, existing peripherals will be reconnected elsewhere and the workload will be migrated to NCC. Now, outside of the widespread use of VAX minicomputers in laboratories and the proposed AS/400 computers for image processing, the Agency has backed away from the use of minicomputers. The goal of this study is to examine the role of minicomputers in the Agency's future computing architecture.
- 4) E-mail and document distribution — Since 1983, EPA has provided computer-based messaging to its employees, affiliates, and contractors. E-mail uses a centralized mail system architecture; all messages, regardless of destination, are routed through the central mail service. The major advantages of this system architecture are the reliability of its message delivery, the ease of message addressing, and the overall ease of system management especially the maintenance of the mail directory. The Agency will evaluate the efficiency and effectiveness of this architecture as services expand to include more document distribution and heavier utilization of premium services, such as access to the *Commerce Business Daily* (CBD).
- 5) Common user interface — Currently, the Agency develops applications for a variety of processing platforms and terminals. Each combination of platform and terminal presents a different interface to the user. That is about to change — the information systems industry is developing Common User Interface (CUI) standards. A CUI provides each user with the same screen format, no matter where his application is running and no matter what software the application is using. A common interface will significantly reduce the learning curve for a new user of an application. The Agency must prepare to adopt the CUI standard and

FY 1990 IRM REVIEW PROGRAM REPORT

evaluate its implications for its long-term computing architecture.

- 6) AS/400 utilization — With the recent award of the Image Processing Contract, there will be an infusion of AS/400 systems into the EPA. Given the possibility that these systems might have more capacity than would be required for image processing alone, EPA should to examine alternative uses for the machines. EPA needs to develop both a vision of the role of the AS/400 in its computing architecture and the appropriate policies for its use within the Agency in a manner that furthers architectural integration.
- 7) Information resources management (IRM) training — As the Agency continues to expend enormous resources to acquire or enhance its computing architecture, it must also find ways to accelerate productivity in service industries, maintain the dynamism of an aging workforce, and improve the educational preparation of all workers. To address these needs, the Agency will re-assess its strategic view of IRM training in order to include provisions for:
 - computer-based tutorials for national applications;
 - the inclusion of context sensitive help in system development guidance;
 - an enterprise-wide, comprehensive strategy for providing relevant training, in an efficient format, to the audience who needs it;
 - funds dedicated for application training; and
 - full use of the existing technology.

AGENCY CONTACT

AND PHONE NO.: Don Worley, FTS 629-2740 and Ted Harris, FTS 629-2538.

APPENDIX B: 1991 REVIEWS

TITLE: Review of the Modernization of STORET

**AGENCY REVIEW
NUMBER:** 91-8

SCOPE OF REVIEW: Developed in the mid 1960s, the STOrage and RETrieval of Water Quality Information(STORET) system is one of EPA's oldest and largest data systems. STORET contains data relating to the quality of surface and ground water. The system assists State and EPA officials in making pollution control decisions by providing the capability to store, retrieve and analyze water quality information.

While the age of STORET dictates a review of methods and software used to maintain it, a more compelling reason for EPA to examine the types of water quality information provided is that no central repository has ever existed in the Agency for storage of groundwater data. STORET has been used to minimally meet the demands of the Groundwater Program, but those demands continue to grow. Thus, STORET must be studied to ascertain how it will properly satisfy expanding groundwater data storage needs. Furthermore, the Biological System (BIOS) component of STORET will be analyzed to determine how biological data required for risk assessment and prevention will be supported.

Therefore, EPA must assess the modernization options for STORET. Options include (1) introducing commercial off-the-shelf data base management software, (2) upgrading existing system documentation, and (3) undertaking configuration management and development methodology improvements.

The purpose of this effort is to analyze STORET and its related systems, BIOS and ODES (Ocean Data Evaluation System), in order to establish the feasibility and the preliminary cost estimates associated with modernizing (upgrading) software. This software modernization is intended to greatly facilitate software maintenance and to provide a software environment that is conducive to accommodating future requirements consistent with EPA's long range goals while satisfying current user needs.

FY 1990 IRM REVIEW PROGRAM REPORT

BRIEF

DESCRIPTION:

This review is being led by OIRM with contractor assistance. The first part of the review, begun in FY 1990, involved studying and documenting much of the current STORET environment, including technical architecture, historical evolution and life-cycle cost structure, in order to obtain a technical and historical perspective on the system. OIRM is ready to examine possible future directions for the system.

EPA proposes to utilize planning and developmental tools, such as Information Engineering, to determine the scope, need, and steps to be taken in modernizing STORET and its associated water data files. A complete analysis of needs will be conducted which will highlight projected cost impacts (application development, software licensing, training, user support, etc.) associated with undertaking this modernization initiative, as well as organizational and staffing impacts. The first segment of this effort will focus on areas in which future STORET enhancement could benefit from improved developmental and life cycle management methodologies, as well as documentation and system integration concepts. Recommendations can then be made about the optimal direction(s) STORET should take, given current and future program priorities.

AGENCY CONTACT

AND PHONE NO.: Joe Sierra, (703) 883-5059.

APPENDIX B: 1991 REVIEWS

TITLE: Locational Accuracy Task Force Review

**AGENCY REVIEW
NUMBER:** 91-9

SCOPE OF REVIEW: EPA/OIRM has a number of major efforts underway to develop policies for sound management of information resources, such as the requirement for the use of CAS (Chemical Abstract Service) numbers to identify chemical substances and the assignment of EPA Facility Identification Codes to regulated facilities and sites. Wide-scale adherence to these policies will assure more uniform and consistent (and thus more compatible) information throughout all environmental programs.

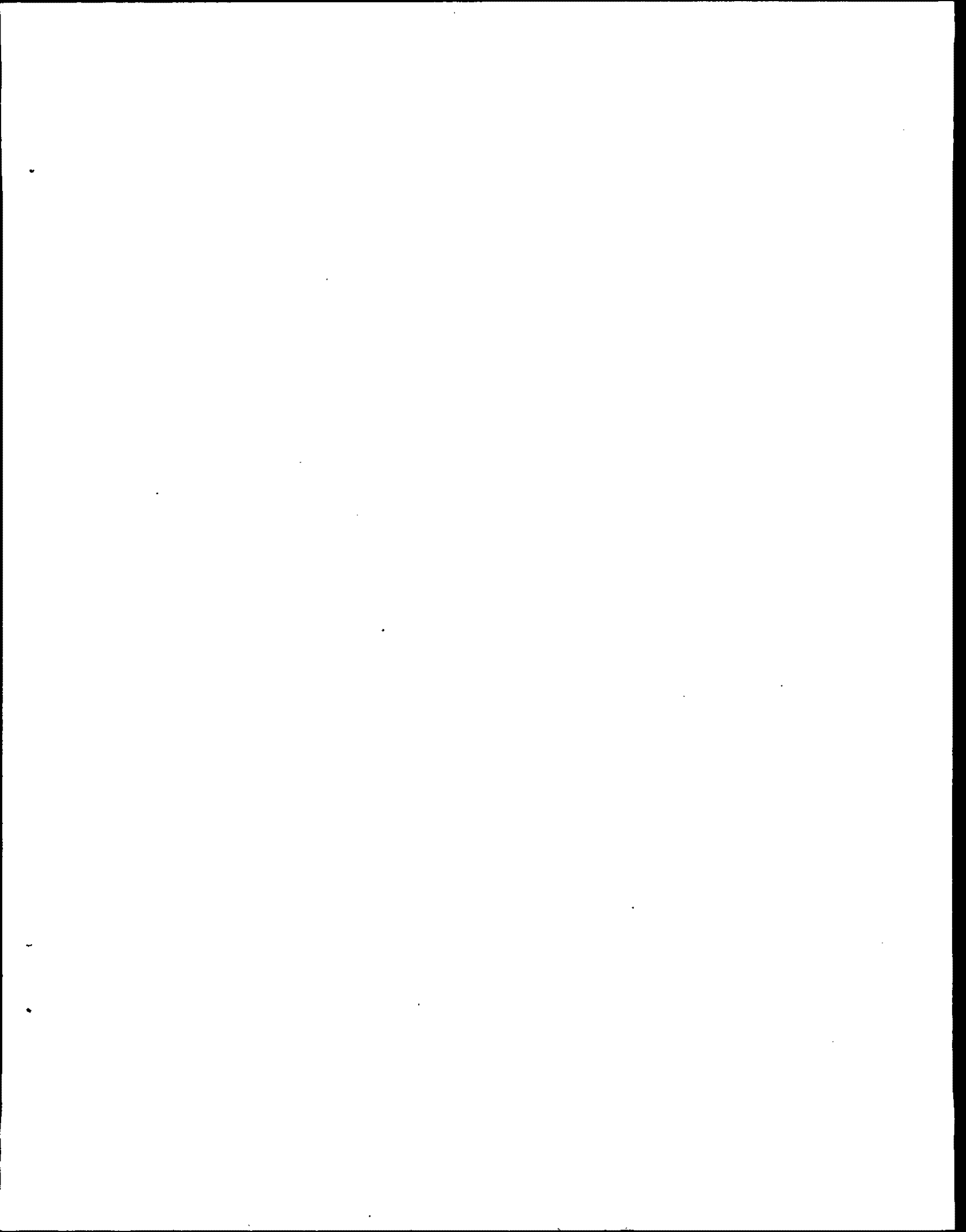
To identify the spatial data accuracy requirements of the Agency, a Task Force on Locational Accuracy was formed as a subcommittee of the Information Resources Management Steering Committee. The Task Force is chaired by the EPA Region VIII Deputy Administrator and includes representatives from all Agency programs and Regions, both at the senior management and technical levels. The Task Force is charged with answering the following questions:

- What should be the required minimum level of accuracy for all the Agency's locational data?
- How should the Agency implement this requirement?
- What actions need to be taken, by whom and by what dates?

A Locational Data Policy has been promulgated by the Agency. Implementation guidance for the policy is expected to be made final soon. The primary purpose of the policy is to ensure the collection of uniform, fully documented location identification information in all relevant data collection activities pursuant to EPA's many environmental programs. The objective is to improve the overall quality and ensure the compatibility of spatial data throughout EPA.

BRIEF

DESCRIPTION: This review is being led by a Task Force formed as a subcommittee of the Information Resources Management Steering Committee. The Task Force will conduct its activities through meetings, teleconferences, and other oral and written communications. In addition to answering the questions cited



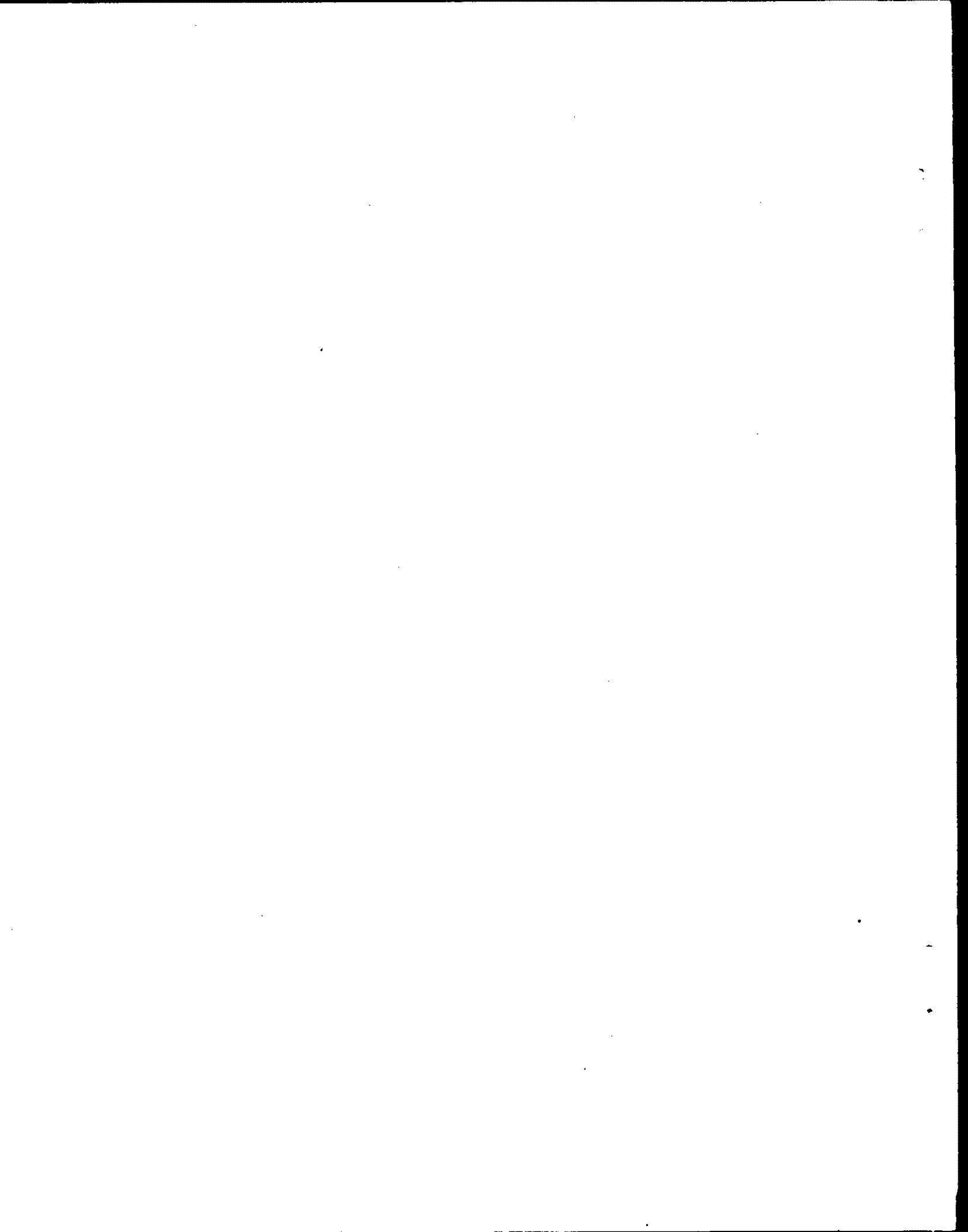


Appendix C:

Major Information System Reports

The purpose of this appendix is to provide the formats prescribed by GSA for:

- Initial Major Information System Report
- Annual Report on Major Information Systems





U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, SW
Washington, D.C. 20460

Federal IRM Review Program
INITIAL MAJOR INFORMATION SYSTEM REPORT

SYSTEM NAME: _____

BASELINE DATE: _____

Signature of Agency Official

Name (please print or type)

Title

Date

Initial Major Information System Report

System Name: _____

Baseline Date: _____

In recognition of the Federal government's substantial investment in major information systems, the General Services Administration (GSA) is focusing special attention on these systems in the Federal IRM Review Program.

The purpose of this Initial Major Information System Report is to provide baseline cost, schedule, and descriptive information on each major information system initiative. This information facilitates the tracking of the progress of this initiative and its benefits to the agency. To complete this initial report, please provide the information requested below. Include attachments as needed.

1. **DESCRIPTION OF SYSTEM:** (Describe briefly the major information system initiative and the mission program(s) the initiative supports.)
2. **PROGRAM OBJECTIVES:** (State briefly the mission program objectives that are dependent upon the successful implementation of the major information systems initiative. Objectives should be described in terms of specific benefits or improvements to mission effectiveness and service delivery. Objectives should NOT be a description of improvements in data processing capability.)
3. **PROGRAM ACCOMPLISHMENTS (Optional):** (List briefly the accomplishments or progress made to date by the major information system initiative.)
4. **PROGRAM MILESTONES/SCHEDULE:** (Describe briefly and/or illustrate the major milestones and schedule for acquisition and operation/maintenance of the major information system initiative and for accomplishing program objectives.)
5. **SCHEDULE FOR REVIEW:** (State the schedule for reviewing the major information system initiative under the Federal IRM Review Program. *At a minimum, the system should be reviewed every three years.*)
6. **PROGRAM COSTS:** (Present a brief estimation of projected in-house and contract costs for the acquisition and operation/maintenance phases of the major information system initiative. Costs should be presented by year. *Actual costs should be presented for years prior to the date of the baseline.*)
7. **NEXT STEPS (Optional):** (List briefly the anticipated next steps during the next fiscal year of the major information system initiative.)



U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, SW
Washington, D.C. 20460

Federal IRM Review Program
ANNUAL REPORT ON MAJOR INFORMATION SYSTEMS

SYSTEM NAME: _____

REVIEW DATE: _____

Signature of Agency Official

Name (please print or type)

Title

Date

System Name: _____

In recognition of the Federal government's substantial investment in major information systems, the General Services Administration (GSA) is focusing special attention on these systems in the Federal IRM Review Program.

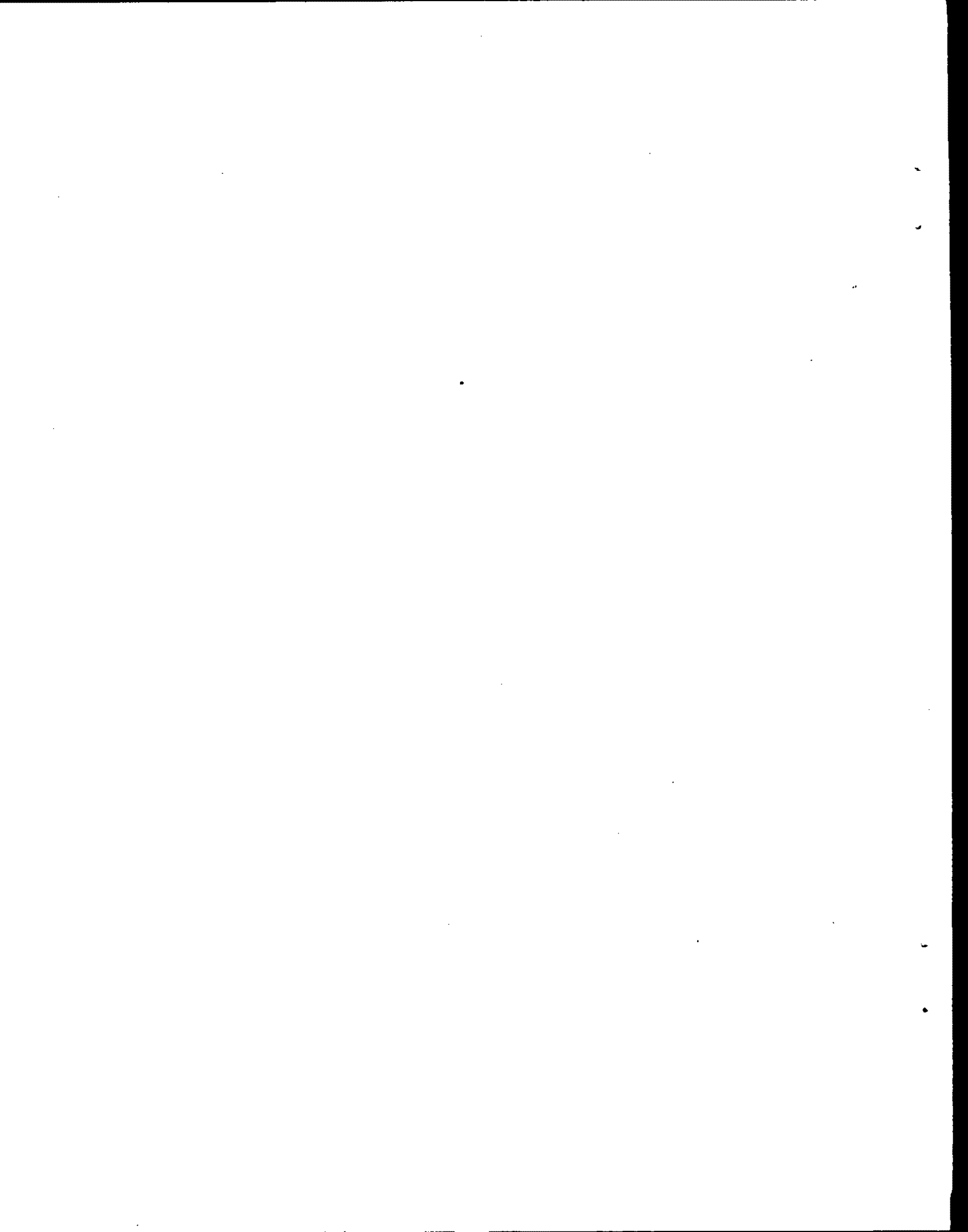
1. ACCOMPLISHMENTS: (Discuss briefly the progress made in accomplishing mission objectives and whether they are being accomplished within projected milestone/schedule and costs. The discussion should address the specific mission program objectives, milestone/schedule and costs established in the "baseline" report for the major information system initiative.)

2. BASELINE REVISIONS: (Discuss briefly whether it is necessary to make changes to the baseline. The discussion should address the specific changes and the reasons for making them.)

3. REVISED BASELINE (If applicable): (Describe the revised baseline for the major information systems initiative.)

Appendix D:

**Initial Major Information System
Report for SCRIPS**





U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, SW
Washington, D.C. 20460

Federal IRM Review Program
INITIAL MAJOR INFORMATION SYSTEM REPORT

SYSTEM NAME: Superfund Cost Recover Image Processing System (SCRIPS)

BASELINE DATE: November, 1990

A handwritten signature in dark ink, appearing to read "Alvin Pesachowitz", written over a horizontal line.

Signature of Agency Official

Alvin Pesachowitz

Name (please print or type)

Director, OIRM

Title

November 1, 1990

Date

SUPERFUND COST RECOVERY IMAGE PROCESSING SYSTEM (SCRIPS)

1. DESCRIPTION OF SYSTEM:

SCRIPS, (Superfund Cost Recovery Image Processing System) was formerly known as STARS (Superfund Transaction Automated Retrieval System). SCRIPS is being developed to automate, through the use of image processing technology, the storage and retrieval of all site-specific Superfund cost documentation and integrate this information with EPA's Integrated Financial Management System (IFMS).

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 authorizes EPA to recover from the responsible party or parties, all costs of removal or remedial action incurred by EPA from the cleanup of hazardous waste sites. All costs must be properly recorded in the Integrated Financial Management System at the time they are incurred. SCRIPS is designed as the lead project to introduce optical disk-based imaging technology to the Agency in order to increase the productivity of the Superfund Cost Recovery Program by changing the way the documentation related to this program is managed.

Ready availability of complete and accurate documentation packages is extremely important since this information is required for settlement, negotiation or litigation purposes as the Agency seeks to recover costs associated with Superfund site remediation. As the Superfund Program has grown, so also has the amount of paper records to be filed, copied and retrieved. In addition to the vast amount of paper records to be maintained, there are other labor-intensive activities required in preparing for a cost recovery action, such as the masking of Privacy Act information and reconciliation of cost documentation.

The need for a more efficient way to manage the large volume of documents related to the Superfund Cost Recovery Program is critical considering the significant increase in the number of cost recovery actions the Agency must handle. SCRIPS is intended to eliminate misfiled documents, accurately link stored images to their financial transactions in the Agency's financial management system, provide automated redaction capability to avoid disclosure of Agency sensitive or proprietary information, substantially reduce the amount of space required to store Superfund documents, and effectively increase the amount of money that can be recovered from responsible parties.

Though image processing represents but one technical solution to enhance productivity, this emerging technology is believed

to have great potential in other program, administrative, and research areas, especially those involving very large, high volume records collections.

2. PROGRAM OBJECTIVES:

The introduction of image processing technology has brought with it an increased management awareness of the need to incorporate efficient records management practices in support of improved programmatic efficiencies across the Agency. Consistent with that need, an Image Processing Systems (IPS) Committee was established under the Office of Information Resources Management. One key responsibility for this group has been to facilitate the judicious use and implementation of image technology. The IPS Committee mandates that any prospective image client organization perform a vigorous mission needs evaluation and requirements analysis. The purpose is twofold: 1) to ensure that the client fully understands the scope of the records management issue, and 2) to ensure that alternative technical or management solutions are examined carefully. Though image processing may provide viable solutions to many of the Agency's records management problems, it is not a technical panacea. The IPS Committee requirement for upfront problem analysis helps demonstrate that the technical solutions may vary and are driven by the requirements, not by the trend toward the latest technology shifts.

For the SCRIPS project, the requirements study pointed to the use of image processing technology. When operational, this application will capture cost document images at regional and field sites throughout the country. All those images will be stored centrally at EPA's National Computer Center (NCC) data processing facility so that when a regional office needs to assemble a cost documentation recovery package, all pertinent document images are available in one repository. The cost recovery package can be made available in a matter of days. The tedious, resource intensive assembly of cost documentation recovery packages for court proceedings or legal negotiations/settlements will be streamlined. Storing these images on optical disk will reduce the need for expensive on-site office space. Paper copies can either be eliminated or shipped off-site to less expensive warehouse space. Introducing changes in the way documentation is managed is expected to introduce significant gains in productivity in the Superfund cost recovery program.

3. PROGRAM ACCOMPLISHMENTS:

Program accomplishments will be reported at the end of FY 1991. Better test data and information on implementation efforts will be available at that time.

4. PROGRAM MILESTONES/SCHEDULES:

A mission needs analysis was completed in FY 1987, followed by a thorough options analysis. Following the decision to develop an optical disk-based application, the Agency initiated the procurement of IPS equipment upon which to develop a prototype. The prototype was initiated in FY 1987 and continued through FY 1989. During the prototype phase, it was necessary to make changes in the IPS system to accommodate changes in the Agency's Integrated Financial Management System (IFMS) and its associated subsystems. The Agency issued an RFP in FY 1989 to acquire hardware and software for the 15 Servicing Financing Offices throughout the Agency. The following are subsequent milestones beginning with the award of the IPS contract in FY 1990:

November, 1989 - IPS contract award to IBM.

December, 1989 - Regional site survey of SCRIPS user community completed.

March, 1990 - IPS equipment delivered/installed at Planning Research Corporation (PRC) site in McLean, VA. (PRC is the software developer for SCRIPS.)

May, 1990 - IPS equipment installed at EPA National Computer Center in Research Triangle Park, NC. (NCC will serve as central image repository for SCRIPS documents). Prototype test sites selected: 1) Region IV - Atlanta; 2) Research Triangle Park (RTP), National Contracts Management Division; 3) Cincinnati Financial Management Center; and 4) Headquarters, Washington, D.C.

June, 1990 - Prototype phase of software development initiated.

July, 1990 - Software testing ongoing.

August, 1990 - Test site equipment installed in Region IV; IPS equipment ordered for other test sites.

September, 1990 - Software revisions; expanded indexing fields required.

October, 1990 - Remaining IPS equipment delivered.

FY 1991 PLANNED PROGRAM ACCOMPLISHMENTS:

December, 1990 - Complete revised software with expanded index fields; Beta testing at Headquarters and RTP to begin.

January, 1991 thru March, 1991 - Beta testings at pilot locations in Regions II and IV.

April, 1991 thru June, 1991 - Make software revisions.

July, 1991 thru Year-end - Continue with phased Regional/field installations.

5. SCHEDULE FOR REVIEW:

GSA Review for SCRIPS will be planned for the end of FY 1991.

6. PROGRAM COST:

In-house Work Years
Support

Equipment and Contractor

Work Years (software development,
training, telcom, etc.)

FY 1989

FMD	3.0		
ASD	2.0	TOTAL:	\$2,794,000.
NDPD	<u>1.0</u>		
Total	6.0		

FY 1990

Proj. Mgr.	1.0		
FMD	3.0		
ASD	2.0		
NDPD	<u>2.0</u>		
Total	8.0	TOTAL:	\$1,268,000.

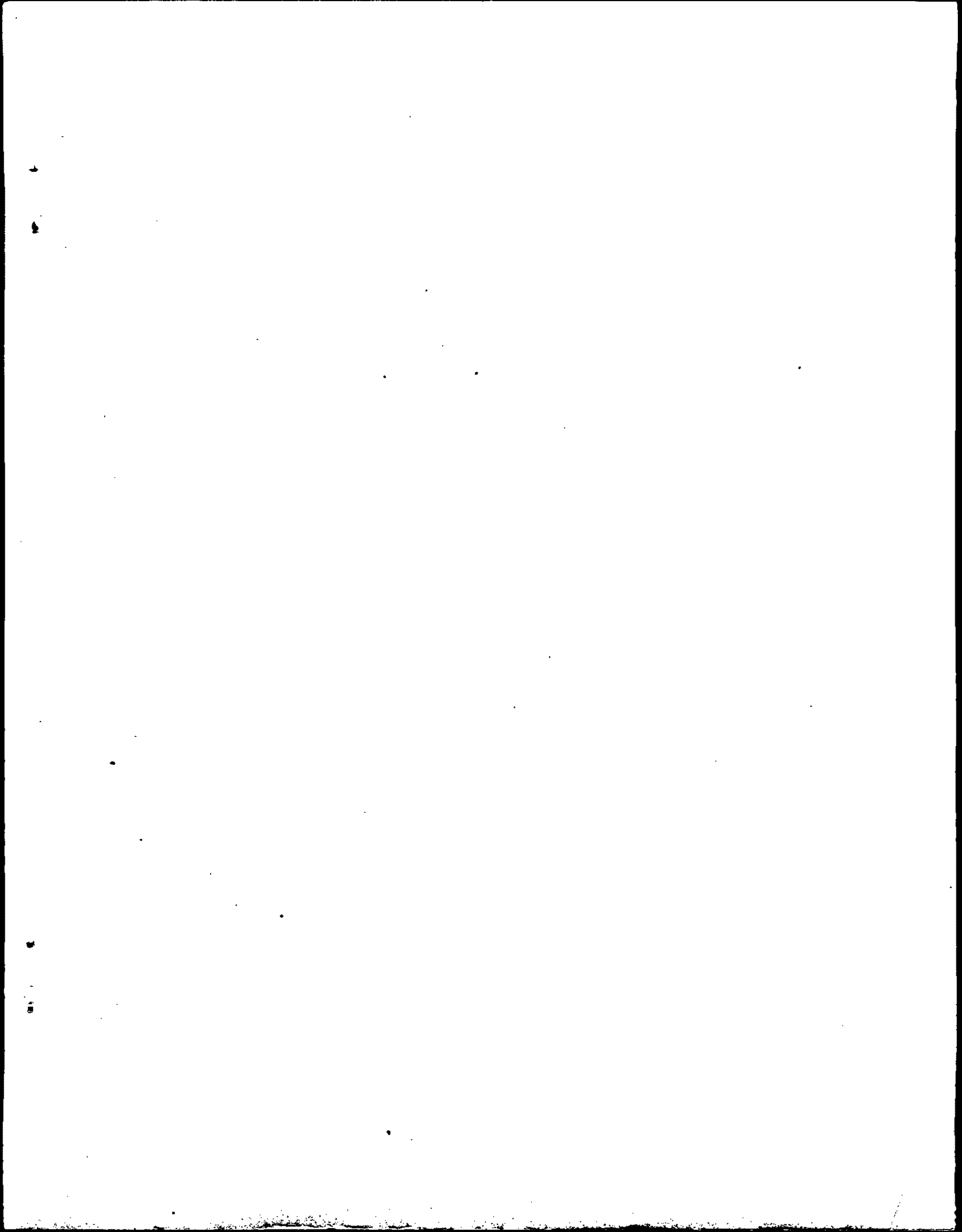
FY 1991 (Projected)

Proj. Mgr.	1.5		
FMD	3.0		
ASD	2.5	TOTAL:	\$2,155,000.
NDPD	<u>1.0</u>		
Total	8.0		

FY 1992 (Projected)

Proj. Mgr.	1.0	
FMD	3.0	
ASD	2.0	TOTAL: \$1,472,000.
NDPD	<u>1.0</u>	
Total	7.0	

- * ASD - Administrative Systems Division
- FMD - Financial Management Division
- NDPD - National Data Processing Division





EPA

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