

July 2007

INFORMATION  
MANAGEMENT

The National Archives  
and Records  
Administration's  
Fiscal Year 2007  
Expenditure Plan



G A O

Accountability \* Integrity \* Reliability



Highlights of [GAO-07-987](#), a report to congressional committees

## Why GAO Did This Study

Since 2001, the National Archives and Records Administration (NARA) has been working to acquire the Electronic Records Archives (ERA) system. As required by law, the agency submitted its fiscal year 2007 expenditure plan to congressional appropriations committees, seeking the release of \$23.4 million for the development of the system.

GAO's objectives in reviewing the expenditure plan were to (1) determine the extent to which the expenditure plan satisfied the legislative conditions specified in the appropriations act; (2) determine the extent to which NARA has implemented GAO's prior recommendations; and (3) provide any other observations about the expenditure plan and the ERA acquisition. GAO reviewed the expenditure plan and analyzed it against the legislative conditions and assessed NARA's progress in addressing prior recommendations.

In May 2007, GAO briefed staff of the Senate subcommittee and sent a copy of the briefing to the House and Senate subcommittee staffs.

## What GAO Recommends

At this time, GAO is making no recommendations. However, continued agency attention will be important to help ensure the success of the project. In commenting on a draft of this report, the Archivist provided an update concerning the ERA cost and schedule.

[www.gao.gov/cgi-bin/getrpt?GAO-07-987](http://www.gao.gov/cgi-bin/getrpt?GAO-07-987).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Linda Koontz at (202) 512-6240 or [koontzl@gao.gov](mailto:koontzl@gao.gov).

## INFORMATION MANAGEMENT

# The National Archives and Records Administration's Fiscal Year 2007 Expenditure Plan

## What GAO Found

As of May 2007, NARA's fiscal year 2007 expenditure plan fully satisfied five of the six legislative conditions and partially satisfied the remaining condition—that ERA conform to the agency's life cycle methodology. This methodology requires, among other things, that the agency develop an agencywide risk management plan. The agency developed this plan; however, it had not been approved by senior staff and signed by the Archivist of the United States. This plan was subsequently approved in July 2007.

NARA implemented all prior GAO recommendations. The agency (1) established a baseline and target architecture, a plan to transition from the baseline to the target, and an architecture review board; (2) revised four of five key acquisition policies and plans to comply with appropriate standards; and (3) developed a fiscal year 2007 expenditure plan that contains an appropriate level and scope of information needed for the Congress to understand its plans and commitments relative to system capabilities, benefits, schedules, and costs.

The ERA project experienced schedule delays and cost increases. According to NARA's analysis, the project was about 2 months behind schedule as of May 2007. In addition, the contractor projected the estimated cost at completion of the initial operating capability (IOC) to be about \$570,000 over budget. Factors contributing to the delays included low productivity of contractor software programmers, difficulties in securing an acceptable contract to prepare the site that is to house the system, and problems with software integration. Although the contractor took actions to address the factors causing these delays and overruns, NARA concluded that the project schedule should be revised so that only limited functionality would be available by the initial operating capability date of September 7, 2007.

Subsequent to the GAO briefing, NARA officials and the contractor reported that the project had experienced additional delays and overruns. Thus, as of July 2007, the estimated date for completion of the IOC is delayed to March 31, 2008. NARA officials and the contractor project the estimated cost at completion the initial operating capability to be between \$8 and \$12 million over budget. They are also in the process of negotiating additional mitigating actions needed and changes to the project's cost and schedule.

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## Abbreviations

ERA	Electronic Records Archives
FOIA	Freedom of Information Act
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IOC	Initial Operating Capability
IT	information technology
NARA	National Archives and Records Administration
OMB	Office of Management and Budget
SA-CMM	Software Acquisition-Capability Maturity Model
SEI	Software Engineering Institute

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United States Government Accountability Office  
Washington, D.C. 20548

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July 27, 2007

The Honorable Richard J. Durbin  
Chairman  
The Honorable Sam Brownback  
Ranking Minority Member  
Subcommittee on Financial Services and General Government  
Committee on Appropriations  
United States Senate

The Honorable José E. Serrano  
Chairman  
The Honorable Ralph Regula  
Ranking Minority Member  
Subcommittee on Financial Services and General Government  
Committee on Appropriations  
House of Representatives

As required by law, the National Archives and Records Administration (NARA) submitted its fiscal year 2007 expenditure plan in March 2007 to congressional appropriations committees, seeking the release of \$23.4 million for the Electronic Records Archives (ERA). ERA is a major information system that is intended to preserve and provide access to massive volumes and formats of electronic records. ERA is to automate NARA's records management and archiving life cycle, and is to consist of

- infrastructure elements, including hardware and operating systems;
- business applications that will support the transfer, preservation, dissemination, and management of all types of records and the preservation of and online access to electronic records; and
- a means for public access via the Internet.

The system is to be deployed in five separate increments. Increment 1 (known as the initial operating capability) consists of two releases that are scheduled to be completed by September 7, 2007.

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Our objectives in reviewing the plan were to (1) determine whether the plan satisfied the conditions specified in the law,<sup>1</sup> (2) determine the extent to which NARA has implemented our prior recommendations, and (3) provide any other observations about the expenditure plan and the ERA acquisition.

In May 2007, we transmitted a copy of our briefing to your staffs and briefed staff from the Senate Appropriations Subcommittee on Financial Services and General Government on the results of our review. This report transmits the materials used at that briefing. The full briefing materials, including our scope and methodology, are reprinted as appendix I. In summary, we made the following major points:

- As of May 2007, NARA's fiscal year 2007 expenditure plan satisfied five of the six legislative conditions, and partially satisfied the remaining condition—that ERA conform to the agency's life cycle methodology. The methodology requires, among other things, that the agency develop an agencywide risk management plan. The agency developed this plan; however, the plan had not yet been approved by NARA's senior staff and signed by the Archivist of the United States. (This plan was subsequently approved in July 2007.)
- NARA had implemented all prior GAO recommendations. The agency (1) completed a baseline and target architecture, completed a plan for transitioning from the baseline to the target architecture, and established an architecture review board to ensure the use of NARA's enterprise architecture across the agency; (2) revised four of five key acquisition policies and plans to comply with the Institute of Electrical and Electronic Engineers (IEEE) standards (as of July 2006, the remaining plan—the ERA Risk Management Plan—was revised to comply with IEEE standards); and (3) developed a fiscal year 2007 expenditure plan that contains an appropriate level and scope of

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<sup>1</sup>NARA's fiscal year 2006 appropriations act, the authority and conditions of which continue into fiscal year 2007, mandates that the agency submit an expenditure plan before obligating fiscal 2007 funds for the ERA program. The plan must (1) meet the capital planning and investment control review requirements established by the Office of Management and Budget (OMB), including Circular A-11; (2) comply with NARA's enterprise architecture; (3) conform with NARA's enterprise life cycle methodology; (4) comply with the acquisition rules, requirements, guidelines, and system acquisition management practices of the federal government; (5) be approved by NARA and OMB; and (6) be reviewed by GAO. See Pub.L. No. 109-115, 119 Stat. 2396, 2486 (Nov. 30, 2005) and Revised Continuing Appropriations Resolution for Fiscal Year 2007, Pub. L. No. 110-5, § 2, 121 Stat. 9 (Feb. 15, 2007).

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information needed for the Congress to understand its plans and commitments relative to system capabilities, benefits, schedules, and costs.

- The ERA project experienced schedule delays and cost increases. According to analysis performed by NARA, the project was about 2 months behind schedule as of May 2007. In addition, the contractor projected an estimated cost at completion that was about \$570,000 over budget. Factors contributing to the delays included low productivity of contractor software programmers, difficulties in securing an acceptable contract to prepare the site that is to house the system, and problems with software integration. Although the contractor took actions to address these factors, NARA concluded that the project schedule should be revised so that only release 1 and limited functionality from release 2 would be completed by the initial operating capability date of September 7, 2007.<sup>2</sup> The remainder of release 2—originally scheduled for delivery on September 7—would be delayed until November 6, 2007.

After we briefed your staffs, NARA and contractor officials reported that the project had experienced additional delays and overruns. Thus, as of July 2007:

- The estimated date for completion of initial operating capability (IOC) is delayed from November 6, 2007, to March 31, 2008. According to NARA, the contractor will (1) begin incremental delivery of three IOC software releases on September 28, 2007, and (2) complete the IOC on March 31, 2008.
- NARA and the contractor project the estimated cost at completion of the IOC to be between \$8 million and \$12 million over budget.
- NARA and the contractor are in the process of negotiating additional mitigating actions needed and changes to the project's cost and schedule.

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<sup>2</sup>Release 1 is to provide the hardware, software, and communications needed as a foundation for the system. Release 2 is to enable online transfer of electronic records to NARA, annual transfers of records, and secure storage of electronic records in original formats.

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## Agency Comments and Our Evaluation

In written comments on a draft of this report, the Archivist of the United States stated that he was pleased to note our recognition of the progress that NARA has made toward implementing our recommendations. These comments are reproduced in appendix II.

The Archivist also provided an update of the efforts concerning ERA acquisition cost and schedule. In addressing the ERA schedule, the Archivist noted that the contractor planned to begin incremental delivery, on September 28, 2007, of functionality leading to an initial operating capability that would include release 1 and limited functionality from release 2. He also noted that the contractor would deliver the remainder of release 2 functionality in the second-quarter of fiscal year 2008. Regarding cost, the Archivist stated that the estimated cost of the project on September 28, 2007, would be about \$2.6 million over budget. (However, in subsequent discussions, the Chief Information Officer stated that the estimated cost overrun of the ERA development has risen from about \$2.6 million to between \$8 million and \$12 million.)

The Archivist also clarified that one of the factors that contributed to schedule delays—the preparation of the ERA site—was a government responsibility, and that the site preparation delays had little impact on the overall delays for the development of the ERA system. He also provided a technical comment, which we addressed in this report as appropriate.

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We are sending copies of this report to interested congressional committees and to the Archivist of the United States. We will make copies available to others on request. In addition, the report will be available at no charge on the GAO Web site at <http://www/gao.gov>.

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If you or your staffs have any questions concerning this report, please call me at 202-512-6240; I can also be reached by e-mail at [koontzl@gao.gov](mailto:koontzl@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.



Linda D. Koontz  
Director, Information Management Issues



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# Briefing to the Senate and House Subcommittee on Financial Services and General Government

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## **National Archives and Records Administration's Acquisition of Electronic Records Archives**

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Briefing for Staff Members of the

Subcommittee on Financial Services and General Government  
Senate Committee on Appropriations

and the

Subcommittee on Financial Services and General Government  
House Committee on Appropriations

May 25, 2007



## Outline of Briefing

Introduction

Objectives, Scope, and Methodology

Results in Brief

Background

- ERA System
- ERA Schedule, Cost, and Performance in Fiscal Year 2006
- ERA Expenditure Plan

Legislative Conditions

Implementation of Prior Recommendations

- Enterprise Architecture
- Acquisition Policies and Plans
- Expenditure Plan

Observations on the ERA Expenditure Plan

Agency Comments

Attachment 1. Comments from the National Archives and Records Administration



## Introduction

The mission of the National Archives and Records Administration (NARA) is to ensure ready access to government records for the public, the President, Congress, and the courts. NARA is responsible for oversight of records management and archiving, which increasingly involves dealing with documents that are created and stored electronically. To address critical issues in the creation, management, and use of federal electronic records, the Archivist of the United States plans to develop a major information system—the Electronic Records Archives (ERA)—that will have the ability to preserve and provide access to massive volumes of all types and formats of electronic records. ERA is to automate NARA’s records management and archiving life cycle, and is to consist of

- infrastructure elements, including hardware and operating systems;
- business applications that will support the transfer, preservation, dissemination, and management of all types of records and the preservation of and online access to electronic records; and
- a means for public access via the Internet.

In 2001, the agency hired a contractor to develop policies and plans using the standards of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) to guide the overall acquisition of an electronic records system.



In December 2003, the agency released a request for proposals for the design of ERA. In August 2004, NARA awarded two firm fixed-price contracts for the design phase totaling about \$20 million—one to Harris Corporation and the other to Lockheed Martin Corporation. On September 8, 2005, NARA announced the selection of Lockheed Martin Corporation to build the ERA system. In fiscal year 2006, NARA selected the Alleghany Ballistics Laboratory at Rocket Center, West Virginia, as the site for the ERA system. Since that time, the agency has continued work on the initial version of the ERA system to be operational in September 2007.

As mandated by NARA's fiscal year 2006 appropriations act,<sup>1</sup> the authority and conditions of which continue into fiscal year 2007,<sup>2</sup> NARA is required to submit an expenditure plan before obligating the fiscal year 2007 funds for the ERA program. As in the previous year, the plan must satisfy the following legislative conditions:

- meet the capital planning and investment control review requirements established by the Office of Management and Budget (OMB), including Circular A-11;
- comply with the agency's enterprise architecture;

<sup>1</sup>Transportation, Treasury, Housing and Urban Development, the Judiciary, the District of Columbia, and Independent Agencies Appropriations Act for Fiscal Year 2006, Pub. L. No. 109-115, 119 Stat. 2396, 2486 (Nov. 30, 2005)

<sup>2</sup>Revised Continuing Appropriations Resolution for Fiscal Year 2007, Pub. L. No. 110-5, § 2, 121 Stat. 9 (Feb. 15, 2007).



- conform with the agency's enterprise life cycle methodology;
- comply with the acquisition rules, requirements, guidelines, and system acquisition management practices of the federal government;
- be approved by the agency and OMB; and
- be reviewed by GAO.

On March 13, 2007, the agency submitted its 2007 expenditure plan to the relevant House and Senate appropriations subcommittees, seeking release of \$23.4 million for the ERA program.<sup>3</sup> The subcommittees released these funds in April 2007 after review of the expenditure plan.

<sup>3</sup>ERA funding available during fiscal year 2007 totaled \$53.2 million. Of this amount, \$29.9 million had already been released to the program. This amount included \$13.6 million in one-year funds and \$16.3 million in multi-year funds.



## Introduction

Since June 2002, we have completed several reports assessing NARA's efforts to acquire the ERA system.<sup>4</sup> The reports made a total of 11 recommendations. At the beginning of our review, eight of the recommendations had been implemented; the following remain to be addressed:

- Develop an enterprise architecture.
- Revise five key ERA program policies and plans to conform to IEEE standards.
- Ensure that future expenditure plans include a sufficient level and scope of information so that Congress will be able to understand what system capabilities and benefits are to be delivered, by when, and at what cost, and what progress is being made against the commitments that were made in prior expenditure plans.

<sup>4</sup>GAO, *Information Management: Challenges in Managing and Preserving Electronic Records*, GAO-02-586 (Washington, D.C.: June 17, 2002); *Records Management: National Archives and Records Administration's Acquisition of Major System Faces Risks*, GAO-03-880 (Washington, D.C.: Aug. 22, 2003); *Records Management: Planning for the Electronic Records Archives Has Improved*, GAO-04-927 (Washington, D.C.: Sept. 23, 2004); *Information Management: Acquisition of the Electronic Records Archives is Progressing*, GAO-05-802 (Washington, D.C.: July 15, 2005); and *Electronic Records Archives: The National Archives and Records Administration's Fiscal Year 2006 Expenditure Plan*, GAO-06-906 (Washington, D.C.: Aug. 18, 2006).



## Objectives, Scope, and Methodology

As agreed, our objectives were to

- determine the extent to which the agency's fiscal year 2007 expenditure plan satisfies the legislative conditions specified in NARA's appropriations act,
- determine the extent to which the agency has implemented our prior recommendations, and
- provide any other observations about the expenditure plan and the ERA acquisition.

To assess compliance with legislative conditions, we

- reviewed the fiscal year 2007 expenditure plan submitted by the agency in March 2007 and analyzed the plan to identify any variance from the legislative conditions;
- obtained and reviewed the agency's enterprise architecture plans to determine the status of the agency's efforts to develop an enterprise architecture and architecture review board;
- reviewed the systems development life cycle policy that the agency is using to guide the ERA acquisition and relevant items for compliance; and



## Objectives, Scope, and Methodology

- reviewed NARA's fiscal year 2007 exhibit 300 submission<sup>5</sup> to OMB to determine the extent to which the agency has complied with OMB's capital planning and investment control requirements.

To determine the extent to which the agency has implemented prior recommendations, we

- obtained and reviewed the agency's enterprise architecture plans to determine the status of the agency's efforts to develop an enterprise architecture and architecture review board;
- reviewed key ERA plans and independent verification and validation reports to determine what progress the program had made in addressing our recommendation that policies and plans conform to industry standards; and
- reviewed and analyzed the current expenditure plan to determine whether it contained a sufficient level and scope of information on system capabilities and benefits to be acquired.

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<sup>5</sup> Agencies develop an exhibit 300, also known as the Capital Asset Plan and Business Case, to justify each request for a major information technology (IT) investment. OMB sets forth requirements for the exhibit 300 in Circular A-11, *Preparation, Submission, and Execution of the Budget*, Part 7.





## Objectives, Scope, and Methodology

To assess the ERA expenditure plan and acquisition, we

- analyzed the completeness of the cost and schedule information contained in the expenditure plan and interviewed agency and program officials in order to gain an understanding of the ERA program and
- reviewed Lockheed Martin monthly status reports and risk analysis reports, and also interviewed Lockheed Martin program officials in order to gain an understanding of the contractor's program management, ERA schedule, and related data.

We performed our work from December 2006 to May 2007 at NARA's College Park, Maryland, location in accordance with generally accepted government auditing standards.



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### Legislative Conditions

NARA's fiscal year 2007 expenditure plan satisfies five of the six legislative conditions, and partially satisfies the remaining condition—that ERA conform to the agency's life cycle methodology. The methodology requires, among other things, that the agency develop an agencywide risk management plan. The agency developed this plan; however, it has not yet been approved by NARA's senior staff and signed by the Archivist of the United States. To fully satisfy this condition, the agency plans to approve this plan by June 2007.



### Prior Recommendations

NARA has implemented all prior GAO recommendations.

**Table 1: Summary Status of NARA's Progress in Implementing Prior Recommendations**

Prior recommendation	Status	Progress
1. Enterprise architecture	Implemented	NARA has completed a baseline and target architecture, and a plan for transitioning from the baseline to the target architecture. The agency has established an architecture review board to ensure the use of NARA's enterprise architecture across the agency.
2. Acquisition policies and plans	Implemented	NARA had revised four of five key acquisition policies and plans to comply with IEEE standards. As of July 2006, the remaining plan—the ERA Risk Management Plan—was revised to comply with IEEE standards.
3. Expenditure plan	Implemented	NARA's fiscal year 2007 expenditure plan contains an appropriate level and scope of information needed for the Congress to understand its plans and commitments relative to system capabilities, benefits, schedules, and costs.

Source: GAO analysis of NARA data.



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### **Observations on the ERA Expenditure Plan and Program**

The ERA project has experienced schedule delays and cost increases. According to analysis performed by the agency, the project is now about 2 months behind schedule. The contractor has projected an estimated cost at completion of about \$570,000 over budget. Factors contributing to the delays include low productivity of contractor software programmers, difficulties in securing an acceptable contract to prepare the site that is to house the system, and problems with software integration. Although the contractor has taken actions to address the factors causing these delays and overruns, NARA has concluded that the project schedule should be revised so that only Release 1 and limited functionality from Release 2 will be completed on the initial operating capability date of September 7, 2007. The remainder of Release 2 would then be scheduled for November 6, 2007. Continued agency attention will be critically important to help ensure that the system development effort does not incur additional schedule delays or cost overruns.

In written comments on a draft of these slides (reproduced in attachment 1), the Archivist of the United States noted that we recognized NARA's progress towards implementing our recommendations and that our observation provided insight into the expenditure plan and acquisition schedule. He also provided technical comments, which we incorporated as appropriate.



## Background ERA System

Since 2001, NARA has been working to acquire the ERA system—a major information system that is intended to be used to acquire, secure, provide access to, and preserve most electronic records, free from dependence on any specific hardware or software.

The ERA system will consist of six major components, each of which supports a specific business area.

- *Ingest* enables transfer of electronic records from federal agencies.
- *Managed Storage* enables stored records to be managed in a way that guarantees their integrity and availability.
- *Dissemination* enables users to search descriptions and business data about all types of records, and to search the content of electronic records and retrieve them.
- *Records Management* supports scheduling,<sup>6</sup> appraisal,<sup>7</sup> description, and requests to transfer custody of all types of records, as well as ingesting and managing electronic records, including the capture of selected records data (such as origination date, format, and disposition).

<sup>6</sup> A record schedule is a document that describes agency records, establishes a period for their retention by the agency, and provides mandatory instructions for what to do with them when they are no longer needed for current government business.

<sup>7</sup> Records appraisal is the process of determining the value and the final disposition of records, making them either temporary or permanent.



**Background**  
ERA System

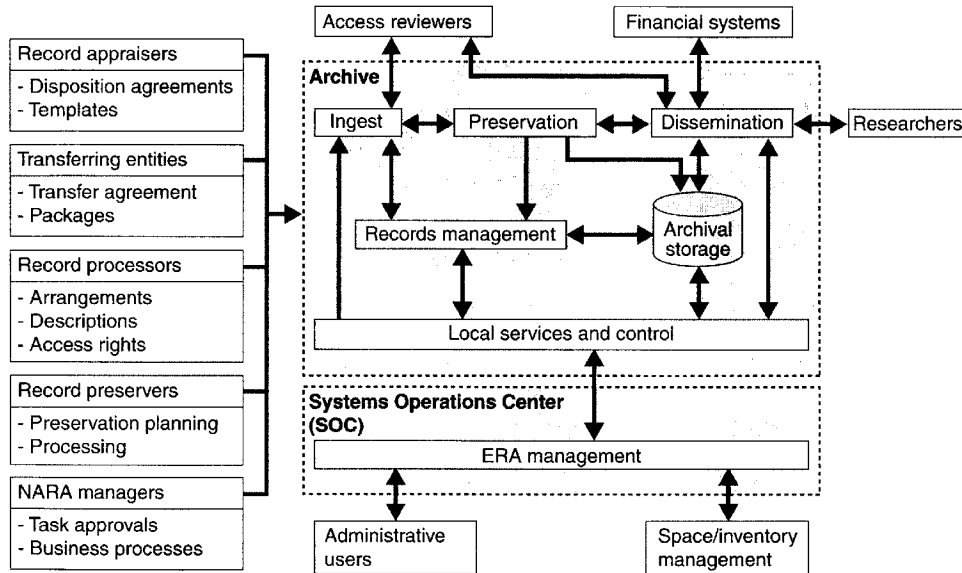
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- *Preservation* enables secure and reliable storage of files in formats in which they were received, as well as creating backup copies for offsite storage.
- *Local Services & Control* regulates how the ERA components communicate with each other, manages internal security, and enables telecommunications and system network management.



Figure 1 shows the ERA system business concept, indicating how the six major components interact.

Figure 1: Overview of ERA Business Concept



Source: NARA data.



## Background ERA System

The ERA program is using an acquisition and implementation approach in which the system will be deployed in five separate increments:

- Increment 1 will be deployed in three releases. Increment 1, releases 1 and 2,—known as the Initial Operating Capability (IOC)—is expected to be completed by September 2007. Release 1 of Increment 1 is to establish the foundation for the ERA system—the hardware, software, and communications needed to deploy the system. Release 2 is to enable online transfer of electronic records to NARA, annual transfers of records, and secure storage of electronic records in original formats. With increment 1, the system is to handle both unclassified and sensitive records. Release 3, scheduled to be operational in June 2008, is to add support for records scheduling and appraisal.
- Increment 2 is to provide additional capabilities such as content searching, responding to Freedom of Information Act (FOIA) requests, and preservation planning.<sup>8</sup> It is also to handle classified data.
- Increment 3 is to provide public access.
- Increments 4 and 5 are to provide additional preservation capability and storage.

<sup>8</sup> Preservation planning is an ERA function that will help ensure that researchers have continued reliable access to records over time, regardless of the complexity or format of the records.





**Background**  
ERA System

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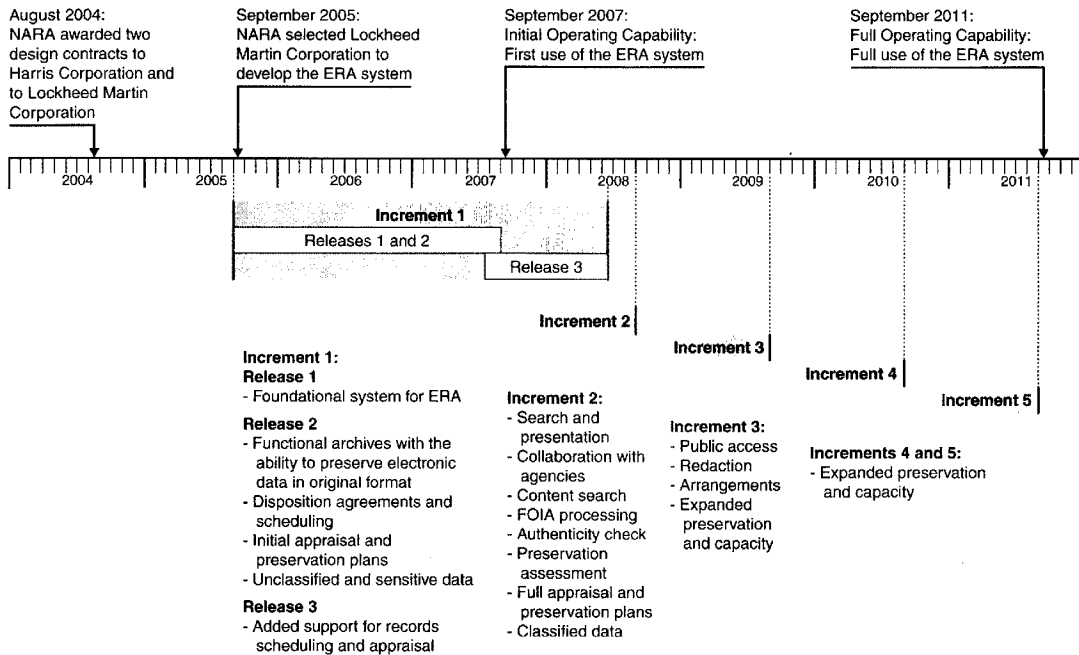
Figure 2 on the next slide shows the incremental timetable for deploying ERA and the functionality planned for each increment. According to NARA, the planning and design for each increment are to start before acceptance of the previous increment. The beginning dates of the planning and design phases for increments 2-5 are not shown, as these depend on the progress of previous increments.

**Appendix I**  
**Briefing to the Senate and House**  
**Subcommittee on Financial Services and**  
**General Government**



**Background**  
**ERA System**

**Figure 2: ERA Acquisition Approach**



Source: GAO analysis of NARA data.



Background  
ERA Schedule, Cost, and Performance in Fiscal Year 2006

NARA generally met its scheduled milestones for fiscal year 2006. In particular, it produced several required acquisition plans—a Configuration Management Plan, a Program Management Plan, and a Risk Management Plan. The agency also completed key reviews required for the development life cycle of the system, such as the Critical Design Review for Increment 1, Release 1.

NARA also reassessed the ERA schedule and delayed the development and delivery of certain functions in the system. According to NARA, the agency reassessed the schedule because the costs of addressing the original system requirements exceeded the expected resources.

As a result of the new schedule, functionality was shifted to future increments. Increment 1—which was to have delivered an initial operating capability accessible by the public, businesses, and federal agencies, and include functionality such as the ability to find and present records, identify and redact sensitive records, and process classified records—will now provide a more basic system to be used by NARA and other federal agencies, and will process only unclassified and sensitive data.



Background  
 ERA Schedule, Cost, and Performance in Fiscal Year 2006

The tables below show the amount obligated for ERA in fiscal year 2006 as well as the reported spending from the program's inception to the end of fiscal year 2006.

**Table 2: Summary of Fiscal Year 2006 ERA Obligations**

<b>Project category</b>	<b>Fiscal year 2006 obligations</b>
Program management	\$8,148,019
Research and development	3,526,755
Site preparation	2,569,036
Development contract—Lockheed Martin	17,000,000
Independent verification and validation	1,549,908
<b>Total</b>	<b>\$32,793,718</b>

Source: GAO analysis of NARA data.

**Table 3: Summary of ERA Spending from Inception through Fiscal Year 2006 (dollars in millions)**

<b>Project category</b>	<b>Spending</b>
Program management	\$44
Research and development	18
System analysis and design contracts—Lockheed Martin and Harris Corporation	22
Development contract—Lockheed Martin	44
Facilities	2
<b>Total</b>	<b>\$130</b>

Source: GAO analysis of NARA data.



Background  
ERA Schedule, Cost, and Performance in Fiscal Year 2006

In the fiscal year 2007 expenditure plan, NARA was seeking the release of \$23.4 million for ERA. The agency could not obligate these funds until Congress reviewed and approved the expenditure plan. Congress released these funds in April 2007 after review of the expenditure plan.

NARA's estimated ERA obligations for fiscal year 2007 are \$53.3 million. Table 4 below shows how it plans to distribute the money across the ERA program.



**Table 4: Summary of NARA's Fiscal Year 2007 Estimated Obligations for ERA**

<b>Project category</b>	<b>Description</b>	<b>Estimated obligations</b>
Program management	Salaries and benefits, supplies, equipment, and telecommunications	\$8,854,985
Research and development	Research performed with other agencies	3,799,136
Security	Security clearances and testing	170,000
Site deployment	Interagency agreements for Rocket Center and other facilities	3,007,487
Development contract	Activities performed under the ERA system acquisition contract with Lockheed Martin	32,861,000
Independent verification and validation <sup>9</sup>	Verification and validation activities	1,569,002
Program Office Support Team	Labor, contracts, and materials to support ERA program management	3,000,000
<b>Total</b>		<b>\$53,261,610</b>

Source: GAO analysis of NARA data.

<sup>9</sup>NARA contracted with Northrop Grumman to perform independent verification and validation on policies and plans produced by the ERA program and contractual deliverables produced by Lockheed Martin.



**Legislative Conditions**

As shown in the table, NARA’s fiscal year 2007 expenditure plan satisfies five of the six legislative conditions and partially satisfies the remaining condition that the expenditure plan must conform to the agency’s enterprise life cycle methodology.

**Table 5: Status of Legislative Conditions**

<b>Legislative condition</b>	<b>Status</b>	<b>Progress</b>
1. Meet OMB capital planning and investment control review requirements	Satisfied	NARA met OMB's capital planning and investment control review requirements for the ERA acquisition. It identified funding required for acquiring ERA and conducts regular reviews of the program. NARA has also implemented a policy and process for bi-annual reviews of ongoing information technology (IT) investments, including interdependencies with ERA through an agencywide capital planning and investment control process and quarterly investment management program reviews.
2. Comply with NARA's enterprise architecture	Satisfied	NARA has developed and implemented a procedure to ensure that ERA complies with the agency's enterprise architecture. NARA has also established an Enterprise Architecture Review Board to assess IT projects agencywide, including those that have interdependencies with ERA, to ensure they conform to the enterprise architecture.

**Appendix I  
Briefing to the Senate and House  
Subcommittee on Financial Services and  
General Government**



**Legislative Conditions**

<b>Legislative condition</b>	<b>Status</b>	<b>Progress</b>
3. Comply with acquisition rules, requirements, guidelines, and system acquisition management practices of the federal government	Satisfied	NARA satisfied this provision by (1) conducting internal assessments in 2002 and 2004 that used the Software Engineering Institute's (SEI) <sup>10</sup> SA-CMM <sup>11</sup> methods to determine the maturity of ERA's system policies, processes, and practices; and (2) implementing a process to address the assessment's recommendations.
4. Conform to NARA's enterprise life cycle methodology	Partially satisfied	ERA generally conforms to the life cycle methodology. However, NARA has not yet fully established an agencywide risk management capability, as required by the life cycle methodology. The agency developed this plan; however, it has not yet been approved by NARA's senior staff and signed by the Archivist of the United States. To fully satisfy this condition, the agency plans to approve this plan by June 2007.
5. Approval by NARA and OMB	Satisfied	This plan was reviewed and approved by NARA and OMB in December 2006. The final version of the plan reflects actual appropriations under the Revised Continuing Appropriations Resolution, 2007.
6. Review by GAO	Satisfied	GAO finished reviewing the plan in May 2007.

Source: GAO analysis.

<sup>10</sup> SEI is a federally funded research and development center operated by Carnegie Mellon University and sponsored by the Department of Defense. Its objective is to provide leadership in software engineering and in the transition of new software engineering technology into practice.

<sup>11</sup> Software Acquisition-Capability Maturity Model (SA-CMM): Identifies key process areas that are essential to effectively managing software-intensive system acquisitions.





## Implementation of Prior Recommendations Enterprise Architecture

In our August 2006 report,<sup>12</sup> we noted that NARA had partially implemented our 2002 recommendations—establishing a baseline and target architecture, and a plan for transitioning from the baseline to the target architecture—but had not established a board for reviewing IT projects agencywide, including projects that are interdependent with ERA. In December 2006, the agency established an architecture review board to maintain, update, and ensure use of the agency’s enterprise architecture across the organization. The board held its first meeting in January 2007. By establishing the architecture review board, the agency increased assurance that projects are consistent with NARA’s architecture.

<sup>12</sup> GAO, *Electronic Records Archives: The National Archives and Records Administration’s Fiscal Year 2006 Expenditure Plan*, GAO-06-906 (Washington, D.C.: Aug. 18, 2006).



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Implementation of Prior Recommendations  
Acquisition Policies and Plans

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We previously reported that ERA had developed four of five key policies and plans to guide its acquisition, and that one remaining document—the ERA Risk Management Plan—did not fully conform to the IEEE standards selected by the agency. In response to our recommendation, NARA has revised the ERA Risk Management Plan to comply with IEEE standards. This plan was completed in July 2006. By revising the plan to conform to these standards, the agency has strengthened the guidance it needs to acquire the system.



Implementation of Prior Recommendations  
Expenditure Plan

In our August 2006 report,<sup>13</sup> we recommended that NARA ensure that future expenditure plans include information of a sufficient level and scope to allow the Congress to understand what system capabilities and benefits are to be delivered, by when, and at what cost, and what progress is being made relative to commitments that were made in prior expenditure plans.

NARA's fiscal year 2007 expenditure plan contains an appropriate level and scope of information needed for the Congress to understand agency plans and commitments relative to ERA system capabilities, benefits, schedules, and costs. For example, the plan now includes a detailed work breakdown schedule that describes the planned and actual completion dates for deliverables or major tasks, the percentage of work complete, and estimated and actual costs. The plan also includes a description of functionality, such as the capability to transfer and accept electronic records.

<sup>13</sup> GAO, *Electronic Records Archives: The National Archives and Records Administration's Fiscal Year 2006 Expenditure Plan*, GAO-06-906 (Washington, D.C.: Aug. 18, 2006).



## Observation on the ERA Expenditure Plan and Acquisition Schedule

NARA established September 7, 2007, as the date by which the ERA system would achieve initial operating capability, including Releases 1 and 2. According to NARA officials, achieving this critical milestone is one of the most important challenges facing the agency and the ERA project. Meeting this milestone would require that Lockheed Martin complete the development of the system, including resolving all software problems that Lockheed identified during earlier software testing, before NARA would begin scheduled acceptance testing<sup>14</sup> on July 27, 2007.

However, the project has experienced schedule delays and cost increases. According to analysis performed by the agency, the project is now about 2 months behind schedule. The contractor has projected an estimated cost at completion of about \$570,000 over budget. Lockheed Martin officials have proposed that, despite the delays, the project can meet the initial operating capability date if the agency agrees to begin acceptance testing before Lockheed completes the initial testing of the Release 2 software and resolves any problems identified. According to the ERA program manager, the agency plans to reject this proposal because of the potentially high risk to the agency.

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<sup>14</sup> Acceptance testing is performed by the customer on a system before the customer accepts delivery or accepts transfer of ownership of that system.



## Observation on the ERA Expenditure Plan and Acquisition Schedule

Factors contributing to the schedule delays include low contractor productivity, difficulties in securing an acceptable contract to prepare the site that is to house the system, and problems integrating commercial off-the-shelf software with the system:

- Low productivity of the contractor's software programmers was a significant factor contributing to schedule delays. According to program officials, this low productivity stemmed from Lockheed not having enough staff, the inability of staff to work well together, and a tight schedule to complete the project. To address this issue, Lockheed replaced several programmers with a more experienced software development staff.
- NARA's original plans for the Rocket Center facility included installing a new cooling system and power supply. Due to a contractual issue, the Rocket Center site preparation has been delayed about a month. Specifically, the agency received only one response to its request for proposals for work on the Rocket Center; because this bid was about \$300,000 more than estimated costs, the agency decided not to award the contract at that time. The agency currently plans to install a temporary cooling system and power supply at the facility. It has scheduled the site to be available May 30, 2007, and plans to issue a new request for proposal for the installation of a permanent cooling system and power supply.



Observation on the ERA Expenditure Plan and Acquisition  
Schedule

- According to Lockheed Martin, the integration of a commercial off-the-shelf product with the ERA system was more time-consuming than anticipated. Agency officials stated that Lockheed experienced problems with the way the software interacted with ERA. After discovering the problem, Lockheed decided to use different commercial off-the-shelf software and to enlist that software's vendor to help with the integration. Agency officials stated that these actions should be adequate to resolve the issue, which had a relatively minor impact on the schedule.

As a result of the delays, NARA has concluded that the ERA schedule should be revised so that only Release 1 and limited functionality from Release 2 will be completed on the initial operating capability date of September 7, 2007. The remainder of Release 2 would then be scheduled for November 6, 2007 (see table 6 on the following page).

The agency is negotiating with Lockheed about the need to revise the initial operating capability deployment schedule and the functionality from Increment 1, Release 2, that will be included in the initial operating capability. It expects to have a revised deployment schedule finalized by May 2007.



Observation on the ERA Expenditure Plan and Acquisition  
 Schedule

**Table 6: Revised ERA Schedule of Planned Activities**

<b>Milestone</b>	<b>Original completion date</b>	<b>Revised completion date</b>
Increment 1, Releases 1 and 2 system development	November 24, 2006	November 29, 2006
Site preparation	April 30, 2007	May 21, 2007
Increment 1, Release 1 system acceptance testing	August 20, 2007	August 20, 2007
Increment 1 Release 1 certification and accreditation of initial system	September 6, 2007	September 7, 2007
Initial Operating Capability (Increment 1 Release 1, limited functionality from Release 2)	September 7, 2007	September 7, 2007
Increment 1 Release 2 system acceptance testing	September 7, 2007	September 24, 2007
Increment 1 Release 2 certification and accreditation	September 7, 2007	October 12, 2007
Initial Operating Capability (Increment 1 Release 2)	September 7, 2007	November 6, 2007

Source: GAO analysis of NARA data.



Agency Comments

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In written comments on a draft of these slides, the Archivist of the United States stated that he was pleased to note our recognition of the progress that NARA has made towards implementing our recommendations. He also stated that he appreciated the insight into the expenditure plan and acquisition schedule that was provided by our observation, and he provided an update on the status of the efforts related to the acquisition schedule. He also provided technical comments, which we incorporated as appropriate.

The Archivist's comments are reproduced in attachment 1.



Attachment 1:  
Comments from the  
National Archives  
and Records  
Administration



*National Archives and Records Administration*

8601 Adelphi Road  
College Park, Maryland 20740-6001

MAY 18 2007

Government Accountability Office  
Director of Information Management Issues  
Ms. Linda Koontz  
441 G Street, NW  
Washington, DC 20548

Dear Ms. Koontz:

We thank you for the opportunity to review and comment on the draft presentation entitled *National Archives and Records Administration's Acquisition of the Electronic Records Archives* before it is briefed to the staff members of the Subcommittee on Financial Services and General Government, Senate Appropriations Committee and the Subcommittee on Financial Services and General Government, House Appropriations Committee. We are pleased to note the recognition of the progress made towards implementing the recommendations provided in GAO's report of August 18, 2006, *Electronic Records Archives: The National Archives and Records Administration's Fiscal Year 2006 Expenditure Plan (GAO-06-906)*.

We also appreciate the insight into the Expenditure Plan and Acquisition Schedule observations addressed in GAO's presentation. We would like to take this opportunity to update you on the status of the efforts related to your observations. NARA is still negotiating with Lockheed Martin regarding the deployment schedule for the initial operating capability. However, NARA has decided that instead of delaying the delivery of initial operating capability, it will reduce the functionality that the contractor will be required to deliver in September 7, 2007. Initial operating capability will consist of Increment 1, Release 1 and limited functionality from Increment 1, Release 2. The remainder of Increment 1, Release 2 would then be scheduled for November, 2007. Discussions continue with Lockheed Martin regarding the limited functionality from Increment 1, Release 2 that will be included in the initial operating capability.

Finally, we would like to clarify a few points from the presentation.

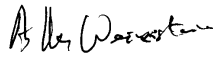
- On page 3, the second bullet should be revised to read "business applications that will support the transfer, dissemination and management of all types of records and the preservation of and online access to electronic records."
- On page 6, the wording "the following remain to be addressed:" gives the impression that these three recommendations have not been addressed.
- On page 10 and 22, the Risk Management Plan will be approved by NARA's Senior Staff and signed by the Archivist of the United States.

NARA's web site is <http://www.archives.gov>

- On page 12, NARA has not decided to “delay the delivery of initial operating capability.” Rather we have decided to reduce the functionality that the contractor needs to deliver in September, with the remaining functionality to be implemented subsequently. That will enable the contractor to resolve problems in development while still enabling NARA to begin making productive use of the system in September.
- On page 13, the Dissemination bullet should be revised to read "enables users to search descriptions and business data about all types of records, and to search the content of electronic records and retrieve them." The Records Management bullet should be changed to "supports scheduling, appraisal, description, and requests to transfer custody of all types of records, as well as ingesting and...." The Preservation bullet should be changed to "enables NARA to overcome technology obsolescence of electronic records by implementing a variety of tools to analyze and transform the records so that they remain accessible."
- On page 15, the first bullet should also mention that Release 3, scheduled for FY2008 will add support for records scheduling and appraisal.
- On page 16, the Acquisition Approach chart should show the overlap of Increments. Planning and design of each Increment starts prior to acceptance of the previous increment. In the case of Increment 1, Release 2 and 3 will overlap with Increment 2. Also, in the Increment 1 column there is no mention of release 3; in the Increment 2 column, the first line should be "search and presentation"; in the Increment 3 column, "arrangements" should be on a separate line, it is not related to redaction, but to ensure that records that belong together, such as in a personnel folder, can be reliably retrieved together.
- On page 28, the second paragraph should be revised to "As a result of the delays, NARA has concluded that the ERA schedule should be revised so that only Release 1 and limited functionality from Release 2 will occur on the initial operating capability date of September 7, 2007. The remainder of Release 2 would then be scheduled for November, 2007...."

Again, we thank you for this opportunity and look forward to our future interactions as we continue the ERA acquisition process.

Sincerely,



ALLEN WEINSTEIN  
Archivist of the United States

*NARA's web site is <http://www.archives.gov>*

# Comments from the National Archives and Records Administration

## National Archives at College Park



8601 Adelphi Road College Park, Maryland 20740-6001

JUL 16 2007

Government Accountability Office  
Director of Information Management Issues  
Ms. Linda Koontz  
441 G Street, NW  
Washington, DC 20548

Dear Ms. Koontz:

We thank you for the opportunity to review and comment on the draft report entitled *Information Management The National Archives and Records Administration's Fiscal Year 2007 Expenditure Plan (GAO-07-987)* before submission to the Subcommittee on Financial Services and General Government, Senate Appropriations Committee and the Subcommittee on Financial Services and General Government, House Appropriations Committee. Once again, we are pleased to note the recognition of the progress made towards implementing the recommendations provided in GAO's report of August 18, 2006, *Electronic Records Archives: The National Archives and Records Administration's Fiscal Year 2006 Expenditure Plan (GAO-06-906)*.

We would like to take this opportunity to update you on the status of the efforts related to your observations since our last letter. The report outlines the factors contributing to the delays in the project to include low productivity of contractor software programmers, difficulties in securing an acceptable contract to prepare the site that is to house the system, and problems with software integration. Although the contractor took actions to address these factors, NARA concluded that the project schedule should be revised. The development contractor plans to begin on September 28, 2007, incremental delivery of functionality leading to an initial operating capability which will include release 1 and limited functionality from release 2. The remainder of release 2 functionality will be delivered in the second quarter of FY08.

It should be clarified that in the factors contributing to the delays cited above, site preparation is a government responsibility. It should be noted that the site preparation has been completed, the contractor has installed production hardware, and COTS software and the communication network has been installed. This delay had very little impact on the overall delays for the development of the system. It should also be noted that the development contractor projects the estimated cost of the project on September 28, 2007 to be about \$2.6M over budget, about \$2M more than previously reported.

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**Appendix II**  
**Comments from the National Archives and**  
**Records Administration**

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Also, the legislative condition requiring conformance to NARA's enterprise life cycle methodology that was partially satisfied in the report has been met. NARA's Risk Management Plan was signed on July 5, 2007.

Finally, we would like to clarify one point in the report. The end of the third sentence on page 6 should be changed from "the following remain to be addressed" to "the following remained to be addressed."

Again, we thank you for this opportunity and look forward to our future interactions as we continue the ERA acquisition process.

Sincerely,



ALLEN WEINSTEIN  
Archivist of the United States

# GAO Contacts and Staff Acknowledgments

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## GAO Contacts

Linda D. Koontz, (202) 512-6240 or [Koontzl@gao.gov](mailto:Koontzl@gao.gov)

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## Staff Acknowledgments

In addition to the contact named above, key contributions to this report were made by Mirko J. Dolak, Assistant Director; Nabajyoti Barkakati; Barbara S. Collier; Marisol Cruz; Neil J. Doherty; Pamlutricia Greenleaf; and Amos A. Tevelow.

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